

The Top Ten Casualty Actuarial Stories of 2006—The year 2006 saw a number of important issues and events affecting casualty actuaries. Based on a survey of CAS thought leaders, the top ten consensus picks are summarized in an accompanying chart. These stories reflect the wide array of issues and challenges facing today's casualty actuaries — and their employers and clients. 16

Variance Chosen as New Name of the CAS Journal—At the 2006 CAS Annual Meeting in San Francisco, Vice President-Research & Development Roger Hayne announced *Variance* as the new name for the CAS journal and “Advancing the Science of Risk” as the journal's tagline. 23

Dave Hartman is the New IAA President-Elect—David Hartman, Former CAS President (1988), was officially elected as the 2007 president-elect of the International Actuarial Association at their November meeting in Edinburgh, Scotland. He will assume presidency of the IAA at the October 2007 meeting in Dublin, Ireland..... 8

Refresh your Professionalism Skills Before the CAS Spring Meeting—If the CAS Spring Meeting, the ASTIN Colloquium, and the nearby attractions weren't enough to bring you to Orlando in mid-June, you now have the opportunity to brush up on your professionalism skills at the free Limited Attendance Seminar on Actuarial Professionalism..... 28

ARIA President Praises CAS Support—During the Annual Meeting on Monday, November 13, Dr. Jim Garven, president of the American Risk and Insurance Association, talked to CAS members concerning the longstanding and mutually beneficial relationship between ARIA and CAS. 13

Plus...

CAS President Thomas G. Myers encourages members to read the CRUSAP Report..... 7

INSIDE THIS ISSUE

| | |
|-----------------------------|----|
| In My Opinion..... | 3 |
| Latest Research | 9 |
| Humor Me..... | 19 |
| Actuaries Abroad | 21 |
| Nonactuarial Pursuits | 22 |
| It's a Puzzlement | 32 |



Natalie St-Jean happily accepts her diploma from 2006 CAS President Paul Braithwaite. Ms. St-Jean was among 120 new Fellows recognized at the 2006 CAS Annual Meeting. Photo highlights from the meeting begin on page 12.



The *Actuarial Review* is the quarterly newsletter of the Casualty Actuarial Society.

Editor in Chief
Paul E. Lacko

Managing Editor
Elizabeth A. Smith

Editor Emeritus
C.K. "Stan" Khury

Editor Emeritus
Matthew Rodermund

Associate Editor
Martin Adler

Book Review Editor
Allan A. Kerin

Brainstorms
Stephen W. Philbrick

Copy Editors
J. Parker Boone
Min Jiang

J. Dale Reynolds
Arthur J. Schwartz
Bryan G. Young
Nora J. Young

Humor Editor
Michael D. Ersevum

Nonactuarial Pursuits
Martin Adler

Puzzle
John P. Robertson

U.K. Correspondent
Kendra M. Felisky

Desktop Publisher
Erika Abrams

The *Actuarial Review* (ISSN 10465081) is published four times each year by the Casualty Actuarial Society, 4350 North Fairfax Drive, Suite 250, Arlington, Virginia 22203. Telephone: (703) 276-3100; Fax: (703) 276-3108; E-mail: office@casact.org. Third class postage is paid at Dulles, Virginia. Publications Mail Agreement No. 40035891. Return Undeliverable Canadian Addresses to PO Box 503, RPO West Beaver Creek, Richmond Hill, ON L4B 4R6.

The amount of dues applied toward each subscription of *The Actuarial Review* is \$10. Subscriptions to nonmembers are \$10 per year. Postmaster: Send address changes to: *The Actuarial Review*, 4350 North Fairfax Drive, Suite 250, Arlington, Virginia 22203.

For permission to reprint material from *The Actuarial Review*, please write to the editor in chief. Letters to the editor can be sent to AR@casact.org or the CAS Office. The Casualty Actuarial Society is not responsible for statements or opinions expressed in the articles, discussions, or letters printed in *The Actuarial Review*.

© 2007 Casualty Actuarial Society.

From the Readers

In Our Opinions

Dear Editor:

"Methods or Models?" (In My Opinion, *AR* November 2006) has to be one of the more thoughtful and entertaining presentations on an otherwise arcane topic.

A key issue with the types of models I have seen advanced as ways to derive loss reserve estimates is that they, as a general principle, do not produce the aggregate loss distributions arising out of the use of those models. Thus the user ends up in a relative vacuum with respect to the probability of adequacy of the final loss reserve estimate.

Another important issue with the use of models is that there is an *implicit presumption* that the development of losses follows some logic that can be captured if we only looked hard enough and identified enough parameters. We all know that this is hardly ever the case. In the famous words cited by Roy Simon, one of the pillars of our profession, "Some haystacks don't even have any needle." [The 1965 Table M, *PCAS* Volume LII, Part 1]

And so, pending a frontal assault on the issue of identifying aggregate loss distributions, my vote goes to the use of methods, for all the reasons cited by the author as well as the two very practical reasons cited above.

—C. K. "Stan" Khury, *FCAS*

Dear Editor:

Paul Lacko's essay, "Methods or Models" deserves a number of rejoinders. I would like to focus on just one. Making the effort to identify a stochastic model underlying a method can lead to significantly improved estimates of the expected outcome. Here is a simple example.

Suppose you want to estimate the mean of a process given a sample of one hundred

numbers. One "method" of doing this is to calculate the sample mean. I think all would agree that this is "fairly easy to explain" and it does not involve going through the effort of identifying the underlying stochastic model.

But does this give the best estimate of the true mean? Suppose we dig a little deeper and find out, with appropriate statistical testing, that the distribution of the numbers follows a lognormal distribution. A "model" based alternative would be to calculate μ , the sample mean of the log of the numbers, and σ , the sample standard deviation of the log of the numbers. We then calculate the mean of the fitted lognormal distribution using the expression $\exp(\mu + \sigma^2/2)$.

Which estimator performs better? While there is considerable mathematical lore on the subject, let's look at a simulation that many readers will be able to verify for themselves. Simulate 100 observations from a lognormal distribution with the "true" $\mu = 0$ and the "true" $\sigma = 2$. Then calculate the mean by both the "method" of taking the straight average and the "model" using the mean of the fitted lognormal distribution as described above. I repeated this experiment 10,000 times and obtained the following summary statistics on the simulated estimates of the mean.

| | Logonormal "Model" | Distribution- Free "Method" |
|--------------------------------|-----------------------|-----------------------------------|
| Mean | 7.39 | 7.39 |
| Standard Deviation | 0.25 | 0.54 |
| 25 th Percentile | 7.22 | 7.03 |
| 75 th Percentile | 7.56 | 7.66 |

From the Readers page 4

Treating the Attention Deficit Problem

Do you want to improve your written communication, whether it be e-mails, articles, reports to management, or statements of opinion? Buy a copy of *The Longman Guide to Revising Prose*. Read the first couple of chapters. Follow the author's examples. Do what the author says.

The author contends that a writer should present information as clearly and directly as possible in as few words as possible. We all suffer from information overload. Working in an information economy, we are continually inundated with information. We, in turn, increase the information overload that afflicts our managers and coworkers.

Information is ubiquitous. The author says that "information economy" is a misnomer. He notes that economists study the allocation of *scarce* resources. The scarce resource is attention. We cannot possibly give every written document the attention its writer thinks it deserves. It's not an information economy, it's an *attention deficit* economy.

The author does not claim to cure our attention deficit problem, but he does offer ameliorative treatment: revise what you have written so that it requires less of the reader's attention and uses that attention more efficiently.

The paperback *Longman Guide* is only 134 pages. The basic how-to instructions take up about half a page, and the rest of the book is examples and commentary. The author is Richard Lanham, emeritus professor of English at UCLA. (The book is published by Pearson-Longman, hence the title. I think Lanham should have insisted on top billing.)

Here's an all-too-typical example from Lanham's chapter on business prose:

After reviewing the research and in light of the relevant information found within the context of the conclusions, we feel that there is definite need for some additional research to more specifically pinpoint our advertising and marketing strategies.

Sound familiar? Of course it does. Does it sound thoughtful, reasonable, effective, clear, and meaningful? If so, take heart—the author's eight-step plan can help even you.

Actually, *four* steps will take you most of the way. Your readers will gratefully understand much more quickly what you have to say.

Start with your written document. Correct the spelling, grammar, punctuation, and capitalization mistakes. Now apply Lanham's "Paramedic Method." The first four steps are:

- 1) In each sentence, isolate every prepositional phrase.
- 2) In each sentence, isolate every "is" form, i.e., every instance of the verb "to be."
- 3) In each sentence, find the *action* and the *actor*.
- 4) Put actor and action together using a simple (not compound) active verb.

The author does not claim to cure our attention deficit problem, but he does offer ameliorative treatment: revise what you have written so that it requires less of the reader's attention and uses that attention more efficiently.

Let's apply The Paramedic Method to the example I gave earlier:

Steps 1 and 2

After reviewing the research and
in light
of the relevant information found
within the context
of the conclusions,
 we feel that **there is** definite need
for some additional research
to more specifically pinpoint our advertising and
 marketing strategies.

From the Readers From page 2

Here we see one example where the “model” estimate of the mean is usually more accurate than the “method” estimate. We should all pay attention to the models. The non-modelers should push the modelers to make their solutions easier to understand, and hopefully we can come to a consensus on a better way to do our estimates.

—Glenn Meyers, FCAS

Dear Editor:

Paul Lacko’s essay was welcome for raising an issue that continues to cause confusion and debate within the CAS. However, it did little to ease the confusion.

There is a false dichotomy made in this essay between methods (techniques applied to data) and models (mathematical descriptions of loss phenomenon). A model by its nature is a description of the loss generating phenomenon, and includes often simplifying assumptions about the parameters to be estimated and the form of the errors between actual and expected values. A method is the step-by-step procedure applied to the actual data.

A model ALWAYS precedes a method, and they should be consistent (cf. Daniel Murphy’s 1994 *PCAS* paper). When someone applies a method, they have already made an implicit assumption about the loss generating phenomenon.

Paul Lacko noted that a “problem we face in fitting models is that we often have relatively few data points” to fit “an awful lot of parameters.” True enough. The problem with this criticism is that it equally applies to standard methods such as chainladder

development. In the chainladder method, we are implicitly estimating many parameters relative to the number of data points but this fact is hidden because we do not make our assumptions explicit.

Much like the character in Moliere’s play who was surprised to learn that he had been speaking prose all of his life, Paul may be surprised to learn that he has been using models all along. He just has not said what they are.

The question is not whether we need models—we use them whether we admit it or not—the question is how to improve upon the existing models and communicate them effectively.

—Dave R. Clark, FCAS

Dear Editor:

Thank you for dedicating “In My Opinion” in the last issue to my joint presentation with Jon Evans.

I am sorry we lost you during the presentation. Maybe I can make up for this (at least in part) by pointing out a couple of things:

The architecture of the model is standard and similar to other state space models of loss development: exposure growth (“eta,” as in exposure), calendar-year effect (“kappa,” as in “k”alendar), and run-off rate (“delta,” as in “decay” in development, adjusted for the calendar-year effect). Eta and delta are fit using random walk specifications, which is why the model is a state-space model in design.

A major difference to other state-space models of loss development is that our model is Bayesian and we estimate it using

Markov-Chain Monte Carlo (MCMC) simulation (instead of the Kalman filter). Bayesian estimation treats all variables as parameters (nodes), which may contribute to the impression that the model has a rather high number

of parameters. Clearly, kappa is different for every calendar year, eta is different for every exposure year, and delta is different for every development year. Yet, these parameters are not entirely free: the etas and deltas each describe Markov chains; the kappas are free but use the official rate of inflation as a prior.

With regards to the fit, the model has two layers of noise. Hence, the model has two variables that represent predicted values. One of these variables (denoted b) aggregates the three processes (eta, delta, and kappa). The other variable (denoted $y.bat$) is a draw from a distribution of which b is the expected value. The charts that we presented in Atlanta are the ones for the variable $y.bat$, not for the variable b .

We have two layers of noise because one of the purposes of the model is tail factor estimation.

For estimating the tail factor, it is critical to replicate the heretofore observed payments with a fair amount accuracy. Further, the variable $y.bat$ allows us to gauge the capability of the model to replicate the heretofore observed data under the assumption of identically and independently distributed measurement noise.

I revised the documentation of the model to make more explicit the difference between the variables b and $y.bat$. [Editor’s Note: See the February *AR* Web page on the CAS Web Site for a link to this model.]

Again, thank you for your comments.

—Frank Schmid

Dear Editor:

I always enjoy “In My Opinion” in *The Actuarial Review*. Here are some comments on “Methods or Models?”

Paul writes (paraphrasing), “Our [independent] Appointed Actuary makes sure my methods and assumptions are reasonable. I make sure his are, too. When our results are close—which is almost always—SENIOR MANAGEMENT FEELS MORE CONFIDENT ABOUT OUR FINANCIAL POSITION.”

The Actuarial Review always welcomes letters and story ideas from our readers. Please specify what department you intend for your item—letters to the editor, news, Brainstorms, It’s a Puzzlement, etc. Send your comments and suggestions to:

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

Or e-mail us at AR@casact.org

Why? Is senior management entitled to increased confidence just because Paul and his appointed actuary are “close” (whatever that means)? What if they are close but way off the “true” mark? Maybe worse, what if they are “close” and one knows why but the other one doesn’t? I’ve seen a fair number of reserve reviews where everyone was “close,” but in the end nobody got it anywhere near “right.”

Further on, Paul writes, “The point we wanted to drive home was that THE BOARD COULD REST ASSURED THAT SO MUCH ACTUARIAL SCRUTINY MEANT THAT OUR RESERVE ESTIMATES WERE AS GOOD AS THEY POSSIBLY COULD BE.”

But of what could the board rest assured? What is “good?” Is it an actuarially certified position represented by some sufficient (arbitrarily defined?) level of actuarial scrutiny? Despite lots of actuarial scrutiny, they ALL just might be “wrong.”

I would maintain that neither closeness of results nor a plenitude of (presumably professional) actuarial scrutiny “entitles” a reader to any level of comfort, nor to draw any particular conclusion. I have always felt that a board (and any level of management) is better served by impressing upon them how exquisitely sensitive reserve results are to “small” changes in assumptions (keeping in mind that “small” to actuaries may mean something entirely different than it does to board members). Invite them to pick alternative sets of loss development factors (or maybe just a few factors) and compare the results to yours. You can expect the reaction to this simple exercise to be something like, “You mean using 3.27 instead of 3.14 changed the answer THAT much?! Which one is BETTER?! And WHY?!”

Of course, no one knows the “right” answer.

Now that there are models, the answer to “Methods or Models” is BOTH.

And a smart board will ensure that that happens.

—Ed Shoop, FCAS

Educational Musings

Dear Editor:

I would like to comment on a few aspects of the White Paper on Education Strategy.

Re: *Electives*

I agree in principle to the board’s conclusion that not all Fellows need to demonstrate all actuarial skills at the same level of mastery. However, I do not agree that this statement leads to the conclusion that the requirements for achieving the FCAS designation should vary between potential candidates. In particular, the requirement that “Some Fellows Master” a collection of topics is not the equivalent of “All Fellows Must Master One” of these topics, and we should not deem it so.

During the course of travel to Fellowship under the current structure, we already have individuals that are becoming experts in the various topics highlighted in the “Some Fellows Master/All Fellows Familiar” (SFM/AFF) category, such as ERM, Financial Reporting, Cat Modeling, Predictive Modeling, etc. We will not improve this outcome by changing our basic approach to education by introducing different FCAS designation tracks using an electives approach.

An education structure that requires expert performance on the “All Fellows Master” topics and acceptable performance on the “All Fellows Familiar” topics (including the SFM/AFF subset) will achieve our desired

credentialing objectives as a Society. For FCAS designation purposes, the “Some Fellows Master” distinction within the “All Fellows Familiar” category is superfluous.

This is not to say that we should not have actuaries mastering the topics in the SFM/AFF category. We should, but we should not tie this broad professional need to every individual’s credentialing requirement.

Re: *Syllabus creep*

The board’s observation that the range of actuarial topics is expanding is correct. However, the answer to the problem is not to create multiple syllabi that collectively cover all the topics, but don’t require any candidate to demonstrate them all. Rather, we should use the education strategy document as a springboard to focus our efforts to identify those topics that fall clearly into the “All Fellows Master” and “All Fellows Familiar” categories, and place these

CAS International Calendar

April 1-4, 2007

XIth Accident Compensation Seminar
Grand Hyatt Melbourne
Melbourne, Australia
<http://www.actuaries.asn.au>

June 19-22, 2007

37th International ASTIN Colloquium
Lake Buena Vista, Florida, U.S.A.
Disney’s Contemporary® Resort
www.actuaries.org/ASTIN2007/

September 23-26, 2007

Institute of Actuaries of Australia
2007 Biennial Convention
Christchurch Convention Centre
Christchurch, New Zealand
<http://www.actuaries.asn.au/Events/Conventions>

Bookmark the online calendar at
www.casact.org/calendar

From the Readers From page 5

categories, with appropriate depth, into a single syllabus that will achieve our credentialing objectives.

From this categorization will naturally follow a common set of educational requirements for all Fellows. A secondary benefit is that this exercise will lead the board toward the proper number of examinations, with the proper number and weight to various learning objectives. Rather than arbitrarily determining there should be seven exams, or eight exams, etc., we will be able to work from basic principles driven by our list of topics toward the proper syllabus length.

If the syllabus becomes too long, then it can only be because we've miscategorized some topics. Either all Fellows must have a certain skill (deeply or otherwise), or they don't. If they do, then we must require demonstration of that skill, and it must be included in the syllabus in some fashion. If they don't, then the topic falls out of the two "All Fellows" categories, and must come off the syllabus. In this way, the syllabus will always be the correct length.

Re: CPD

There is no question that providing opportunities for continuing professional development is an important function of the CAS. We provide an impressive array of continuing education opportunities, and we should continue to improve those efforts so that any actuary who wants to become an expert in any area has the resources to do so. However, I oppose the idea of creating CPD certificates.

My primary concern is that the acquisition of a particular CPD certificate will become synonymous with being qualified to practice in a certain specialty. This may create an unnecessary burden, and potential legal liability exposure, to perfectly capable actuaries, now or in the future, who comply fully with the code of conduct with respect to actuarial services, but who may not have the inclination or resources to secure CPD certificates for their various capabilities.

If any actuary's qualifications ever come into question, let them be questioned. Such a process, in use today, will provide a better outcome than one which concludes an actuary is qualified or unqualified simply based on the presence or absence of a CPD certificate.

—*Daniel Roth, FCAS*

Dear Editor:

I would like to express my concern about the CAS Board proposal to move to pre-Fellowship specialty exams. One of the strengths of the CAS over the years has been that all Fellows have a common basic actuarial education, and I believe that moving away from this would be a mistake.

Candidates would almost certainly choose the specialty exams that most closely mirror their current job responsibilities in order to obtain a competitive advantage in the exam process. Then, it is inevitable that an actuary's specialty exams would become part of his or her resume, and this could restrict that actuary's career opportunities. Casualty actuaries early in their careers should not be required to select specialties; instead, that is the time to be exposed to a broad array of actuarial material regardless of one's current job responsibilities.

The suggestion that Fellows could circle back and take specialty exams that they did not pursue in obtaining Fellowship is problematical. They would be competing with candidates currently pursuing Fellowship, and thus this would effectively lengthen the rigorous basic education process for those choosing this route. If the standards were relaxed (e.g., the pass score were lower) for those who had already obtained Fellowship, passing a specialty exam post-Fellowship would be seen as being inferior to passing that exam pre-Fellowship.

A much better option would be to retain a common basic Fellowship education, and then to provide more formal recognition of completion of continuing education offerings in specialty areas of practice. These offerings could take a variety of forms, including exams, seminars, workshops,

and internet courses. This would allow new casualty actuaries to continue to initially obtain a basic core education, and then to use continuing education offerings to demonstrate proficiency in specialty areas as needed over their careers.

—*Clive Keatinge, FCAS*


Peer Education Notice

Dear Editor:

I have prepared an on-line introductory lecture on stochastic reserving. Anyone can view it, and the link is <https://talk.city.ac.uk/stochasticreserving>. (You need to make sure you turn your sound on, so that you can hear me talking).

I think CAS members will find it interesting. I would be very glad to receive feedback about it at R.J.Verrall@city.ac.uk.

—*Professor Richard Verrall*

*Associate Dean and Head of Faculty
Faculty of Actuarial Science
and Insurance
Cass Business School
City University
106 Bunhill Row
London EC1Y 8TZ* 

Is The U.S. Actuarial Profession at Risk?



Imagine the following scenario:

- A large insurance company goes bankrupt.
- Government agents are called in to investigate.
- Contributions by actuaries to the bankruptcy (or their lack of contribution to its avoidance) lead to a government investigation of the actuarial profession.
- The actuarial profession is found to have significant deficiencies and government regulation of the profession is imposed.

The plot of the latest John Grisham thriller? No. Unfortunately, this is essentially what happened to the actuarial profession in Great Britain following the bankruptcy of the Equitable Life. Based on findings during the investigation of the Equitable's bankruptcy, Sir Derek Morris was charged with conducting a wide-ranging independent review of the British actuarial profession. The Morris Review raised concerns about the insular nature of the profession and the weakness of its self-regulatory processes.

As a result of the Morris Review, the Financial Reporting Council—which had previously been responsible for overseeing the regulation of the British accountancy profession—was assigned to oversee regulation of the actuarial profession as well. Their charge included setting education and professional development requirements, setting standards of professional conduct, and overseeing disciplinary reviews.

Is the U.S. actuarial profession at risk of a similar loss of autonomy? Like the British profession, the U.S. profession has been largely self-regulated throughout its history. Has this resulted in similar weaknesses?

In an effort to be proactive on this issue, the American Academy of Actuaries established a task force to conduct a critical analysis of the U.S. actuarial profession (the Critical Review of the United States Actuarial Profession, or CRUSAP), charged with identifying risks and opportunities facing the profession and making recommendations to address them. The CRUSAP Task Force, chaired by former CAS President Fred Kilbourne and including CAS members Jim Rech and Terri Vaughan, spent a year researching the issues


facing the U.S. actuarial profession, conducting interviews and surveys of both actuaries and users of actuarial work products to gather opinions, and then sifting through the input in order to present meaningful recommendations. Throughout the process, they were guided by a thirty-member advisory panel that included a significant number of nonactuaries, including financial services executives, regulators and academics. We owe the CRUSAP Task Force our thanks for the significant efforts they've put in on this initiative.

The main theme of the CRUSAP Report is that the profession needs to recognize its responsibility to meet the actuarial needs of the public. This is certainly a theme that we should all embrace, regardless of the countries in which we practice.

However, accomplishing this mission requires not only the desire but also the appropriate tools and processes. The CRUSAP Report discusses the extent to which the U.S. actuarial profession is fulfilling this mission and offers improvements that could be made in the areas of education, communication, discipline, and the establishment of professional standards. The report makes clear that the conclusions and recom-

mendations were made by the task force members and are not an official statement of the American Academy of Actuaries or any of the other U.S.-based actuarial organizations.

I strongly encourage you to read the final report, which you can find at www.crusap.net. While the full report is rather long, the executive summary is a quick read and the task force recommendations are clearly stated. You might not agree with all of the conclusions and recommendations, but I'm sure you will find much in the report that's worth chewing on.

Responding to the CRUSAP Report will be a major strategic initiative for the CAS Board of Directors and the Executive Council during 2007. It is my hope that we will be able to work with the other U.S.-based actuarial organizations to improve our ability to meet the actuarial needs of the public in the United States. Many of these improvements will also benefit our members practicing in other countries. If you have comments or suggestions about how we as a profession can improve our effectiveness, please feel free to speak with me or with any member of the CAS leadership team. 

You might not agree with all of the conclusions and recommendations, but I'm sure you will find much in the report that's worth chewing on.


Dave Hartman is the New IAA President-Elect

David Hartman, Former CAS President (1988), was officially elected as the 2007 president-elect of the International Actuarial Association at their November meeting in Edinburgh, Scotland. He will assume presidency of the IAA at the October 2007 meeting in Dublin, Ireland.

His experience as the CAS chairperson for the IAA Liaison Committee from 1999–2003, and, more recently, as the chairperson of ASTIN, the IAA's section for the promotion of actuarial research particularly in non-life insurance, is fitting for his new position. Hartman has also already taken on the chairmanship of the IAA's Strategic Planning Task Force, which has been asked to look at the governance of the IAA.

Hartman has also been very involved with the CAS. In addition to serving as president, he has served on numerous commit-

tees including the Nomination Committee, the Examination Committee, the International Oversight Committee, the Long Range Planning Committee, and the Centennial Goal Implementation Task Force. He was a member of the CAS Board of Directors for the term 2002–2004. Hartman retired from the Chubb Group of Insurance Companies in Warren, New Jersey in 2005 as senior vice president and chief actuary.

Founded in 1895, the IAA is an association of associations. The organization represents the actuarial profession globally as a regrouping of 55 local professional actuarial associations and their individual members. 



David Hartman

Web Site News

Set-up Your MyCAS Page on the CAS Web Site

By Jen DeMarr, CAS Web Site Manager

As it celebrates a decade of bringing online services to the CAS membership and actuarial community at-large, the Committee on Online Services (COOS) is pleased to present the MyCAS section of the CAS Web Site. MyCAS allows members, Affiliates, and candidates to personalize a page on the Web Site to get quick access to the information that interests them most.

To set-up your profile, select up to eight from the following 15 topical areas:


- Accounting and reporting
- Capital management
- Data management and information
- Dynamic risk modeling
- Enterprise risk management
- Investments
- Ratemaking
- Regulation and law
- Reserving
- Valuation
- Personal business areas
- Commercial business areas

- Reinsurance
- Workers compensation
- Financial and statistical methods

Other benefits of setting up a MyCAS profile include:

- Regional Affiliate announcements will be displayed for your local affiliate
- The ability to save up to three of your favorite links, whether it is a favorite Web page on the CAS Web Site or any other page on the Web
- An alternative to the CAS home page – by bookmarking MyCAS in your Web browser, your personalized page is a suitable replacement for the home page because the MyCAS page automatically includes all of the new Featured Items and Important Dates

Set up your MyCAS profile today by visiting www.casact.org/mycas/, logging in with your CAS username and password, and selecting your topics.

Feedback on this feature is welcome. Send your comments or questions to Jen DeMarr, CAS Web Site Manager at jdemarr@casact.org. 

Building A Structure For Data

Corporate Information Factory

By William H. Inmon, Claudia Imhoff, and Ryan Sousa [John Wiley & Sons Inc., 1998, \$54.99]

Reviewed by Robert Campbell and Louise Francis, CAS Data Management Educational Materials Working Party

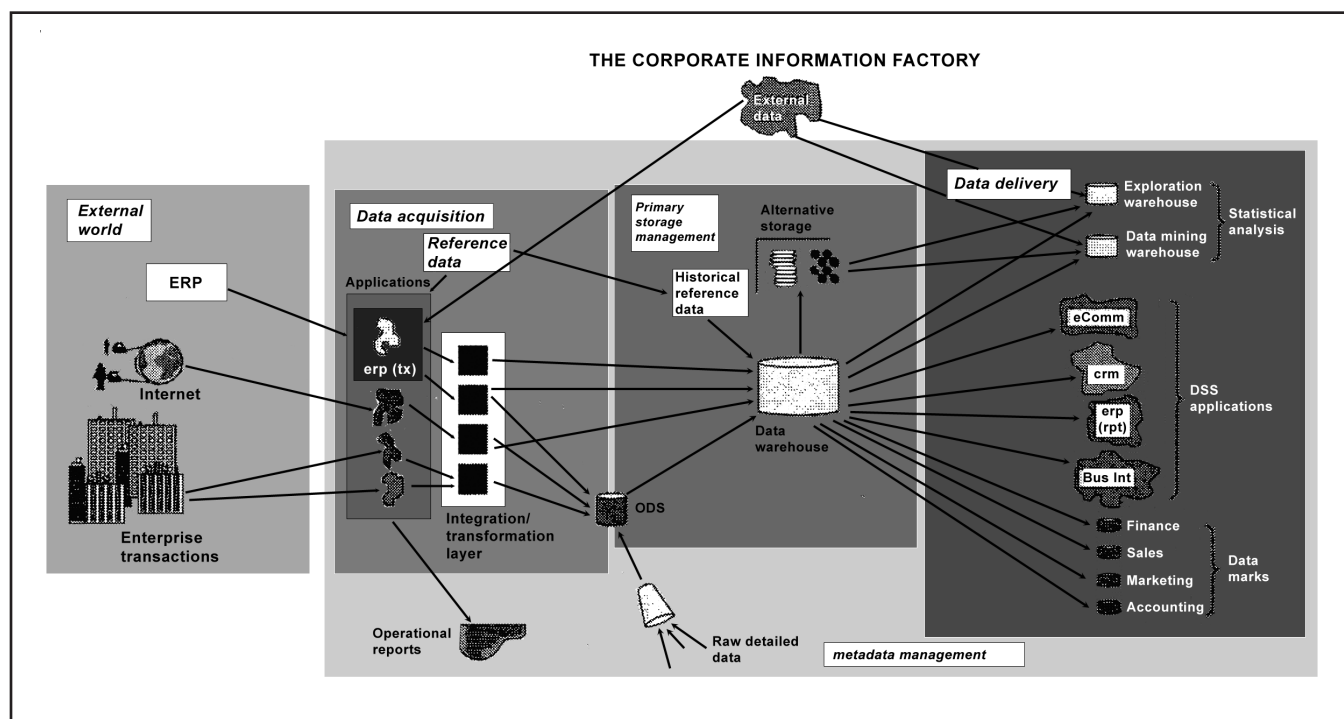
Corporate Information Factory overviews information technology architecture for modern corporations. Its authors, Inmon (described by many in the industry as the father of the data warehouse), Imhoff, and Sousa, describe a way of thinking about the various technologies available today to give the reader a structure to incorporate them in their company's systems. The authors feel their proposed approach is "the best way to meet the long-term goals of the information processing company." Two clear strengths of their approach are that it can be implemented incrementally and it is designed to be flexible to adapt to changing business needs.

The book is divided into four parts. The first two chapters summarize the evolution of the "corporate information factory." Chapters 3 through 14 review each element of the architecture and show how they are combined. Chapters 15 to 17 discuss constructing and managing the corporate information factory.

Finally, the appendix contains guidelines for examining and assessing a particular corporate information factory.

The authors write: "Three fundamental business pressures are fueling the evolution of the information ecosystem: growing consumer demand, increased competition and complexity, and continued demands for improvements in operating efficiencies. . . ." The corporate information factory can help corporations respond to these pressures by aiding them in the following areas.

1. Business operations: running the day-to-day business.
2. Business intelligence: helping companies understand what drives their business and the likely impact of decisions.
3. Business management: "If business intelligence helps companies understand what makes the wheels of the corporation turn, business management helps direct the wheels as the business landscape changes."



The basic structure of the corporate information factory. (Reprinted with permission.)

Based on the diagram shown, the authors see the “big picture” as follows: “The alpha and omega of the corporate information factory is the external world in which business is transacted.” Information flows from the external world to the data acquisition applications of the corporate information factory. From there it can be condensed into operational reports or transformed and integrated with other data before being forwarded to primary storage management. Primary storage management includes the operational data store (ODS) and the data warehouse including historical data. The final phase, data delivery, can include data marts, decision support services, and an exploration warehouse or a data mining warehouse or both. Managing metadata (information about the data) embraces and integrates across all three phases of the corporate information factory: data acquisition, primary storage, and data delivery.

The authors look at each of the dozen components from several points of view.

- What is the purpose or function of the component?
- What is its structure?
- How does information flow?
- What types of data does it work with?
- What types of users use it?
- What is the level of centralization versus decentralization in processing?
- How does this component interface with others?

The concepts of ecology and evolution are used frequently. Corporate information systems are like an ecosystem where raw energy in the form of data is transformed by organisms, i.e., the various component information systems, into “food” or output which is then recycled into other “organisms” or information systems. These systems are never static, but evolve over time as circumstances and requirements of the users change.

Corporate information resides in a number of different data stores. These include data warehouses, data marts, and operational data stores, each with their own role in meeting corporate information needs. The data warehouse is a big data repository of much of the company’s data that is needed to run business intelligence systems. A data mart is a subset data repository, used for specific functions and applications containing smaller data subsets and aggregations of data. It is needed for efficiently running applications. Both play an important role in managing corporate information needs. Finally, an ODS “is a collection of detailed data that satisfies the collective, integrated operational needs of the corporation.” The focus of the ODS is on information for operations, so it only contains current detailed information, not a data warehouse’s multiple snapshots and summaries.


Each of the various corporate data stores has a development life cycle involving requirement gathering, analysis, design, programming, testing, and implementation. The book discusses a general database management strategy, as well as the strengths and weaknesses of various software and hardware solutions.

The different kinds of data storage may have different management requirements. For instance, the data warehouse needs are “characterized by volumes of data and unpredictable workload” (p. 251). The authors discuss the various needs and how they are addressed, how the various data stores are integrated, as well as the security needs associated with the different databases.

A further consideration of corporate information systems is archival of stale data. The authors discuss how long management should wait before archiving data and what the best mechanism is for archiving it.

The authors also include a discussion of multiple data warehouses and the integration of data from multiple systems. Integration of data from separate systems can be necessitated by corporate mergers and acquisitions or by the need to do more advanced analysis. Such integrations contain their own challenges, such as who owns the data, who creates and manages the new database, what types of data the database contains, and the nature of the sharing that will occur.

The book is something like the “Cliff Notes” of information management. It is a concise summary of current theory and practice with respect to developing and maintaining information systems, but it is not weighted down with a lot of technical detail. As such, the book provides an easy-to-read introduction for those not working in the area but might be too simplistic for those with deep experience in data management and information systems. The text is clearly written, but because of the multifaceted approach sometimes it is difficult to tell where the authors are going with a discussion. Acronyms often appear in the book and their frequency sometimes becomes annoying. Also, a lot of the diagrams are trivial; they don’t really illustrate their point any better than the text. Finally, despite all the points of view, there does not seem to be a lot of actionable information. This is a good text for learning about concepts, but not for implementing them.

Corporate Information Factory provides a good introduction to the broad world of information technology. This book can help actuaries better understand IT structure, concepts, issues, and goals to better frame their interactions with IT. If you are interested in a quick introduction to the topic that covers the key concepts and techniques, this book will meet your goals. If you need a more substantial introduction to information management, reference another book, perhaps one of the many books referenced by the authors. 

In My Opinion From page 3

Steps 3 and 4

Lanham's analysis, almost verbatim:

Where's the action? Who's kicking who? Well the kicker is obviously "we." And the action? *Needing*—but [it's] buried in there is *definite* need. So the core of the sentence emerges as "We need more research." The revision then reads:

The conclusions of previous research suggest that we need more research to pinpoint our advertising and marketing strategies.

Eighteen words instead of 38. Not bad—but wait a minute. How about "the conclusions of"? Do we need it? Why not:

Previous research suggests that we need more research to pinpoint our advertising and marketing strategies.

And this revision, as so often happens, suggests a further and more daring one:

Previous research **has failed** to pinpoint our advertising and marketing strategies.

By now, of course, we've changed the kicker and kickee and, to an extent, the meaning. But isn't the new meaning what the writer wanted to say in the first place? A previous failure has generated a subsequent need? And the new version sounds better, too. The awkward repetition of "research" has been avoided, and we've finally found the real first kicker, "previous research," and found out *what it was doing*—it "failed." We can now bring in the second kicker in an emphatic second sentence:

Previous research has failed to pinpoint our advertising and marketing strategies. *We need to know more.*

No "is," no prepositional phrases, a Lard Factor of 58%, and the two actors and actions are clearly spelled out.

All the above are direct quotations from Lanham's book. Grammatical errors are his, not mine. (His writing style is informal.) The "Lard Factor" mentioned just before equals the difference between the word count in the original sentence and the revision divided by the word count in the original sentence. Lanham says that a Lard Factor of 33%-50% is normal. In your own writing, he advises, "Don't stop revising until you find it."

Okay, if you really want to know, here's step five: Start fast—no slow windups. Lanham means that writers should delete introductory phrases that waste attention. You will find many more examples in your own writing. (I know *I* do!) Here are several from Lanham:

What I would like to say here *is that*...

My contention *is that*...

The fact of the matter *is that*...


What I have argued here *is that*...

My opinion *is that*...

What I want to say *is*...

It was decided *that*...

It has been determined *that*...

You may have noticed in the material I quoted from the book that even Lanham occasionally violates his own rules. That's not a bad thing. Sometimes it's a good thing. Passive verb forms are considered appropriate and professional-sounding in a technical article, for example. Also, "brief, direct, and to the point" can come off as "insensitive and blunt." Blunt isn't always beautiful. Respect others' feelings, social standing, politics, and level of responsibility in the organization. Think carefully before you delete all those prepositional phrases. You wouldn't want to delete your next advancement opportunity! 

CAS Professional Education Calendar

Bookmark the online calendar
at www.casact.org/calendar

March 8–9, 2007
Seminar on Ratemaking
Hyatt Regency Atlanta
Atlanta, GA

March 28–30, 2007
ERM Symposium
Chicago Marriott Downtown—
Magnificent Mile
Chicago, IL

May 7–8, 2007
Seminar on Reinsurance
Sheraton Society Hill Hotel
Philadelphia, PA

June 17–20, 2007
CAS Spring Meeting
Disney's Contemporary® Resort
Lake Buena Vista, FL

September 10–11, 2007
Casualty Loss Reserve Seminar
Marriott San Diego Hotel & Marina
San Diego, CA

November 11–14, 2007
CAS Annual Meeting
Chicago Marriott Downtown—
Magnificent Mile
Chicago, IL

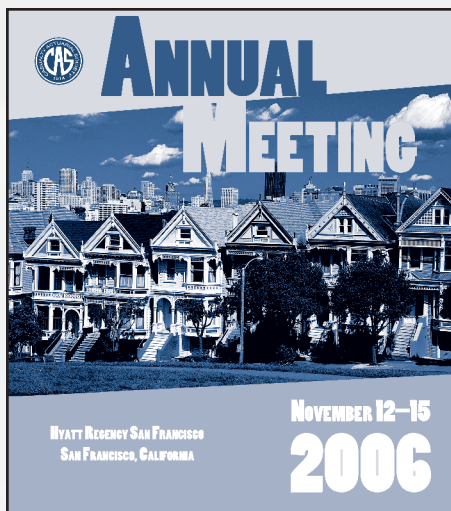
SCENES FROM...



Happy to be an FCAS: With diploma in hand, new Fellow William Scott Lennox poses for a photo with his wife Michelle, son Will, and CAS President Paul Braithwaite.



The 2007 CAS Executive Council: Seated from left to right, VP-Admissions Jim Christie, President-Elect Chris Carlson, President Tom Myers, VP-International Amy Bouska, and VP-Administration Ken Quintilian. Standing from left to right, CAS Executive Director Cynthia Ziegler, VP-Research and Development Roger Hayne, VP-Professional Education Andy Kudera, VP-Risk Integration and ERM John Kollar, and VP-Marketing and Communications Pat Teufel.



Handing over the gavel: CAS President Braithwaite (left) takes a break with incoming 2007 CAS President Thomas G. Myers at the reception for new Fellows held at the 2006 Annual Meeting in San Francisco.



Dorweiler Prize Winners: Richard E. Sherman (left) and Gordon F. Diss proudly display plaques awarded to them for the 2006 Dorweiler Prize. Sherman and Diss won for their paper, "Estimating the Workers Compensation Tail," which is published in the 2005 Proceedings.



Past CAS Presidents Acknowledged: At the 2006 CAS Business Session, past presidents were asked to stand and be recognized. From left, Fred Kilbourne, Michael Fusco, Steve D'Arcy, Bob Conger, Alice Gannon, Dave Hartman, Mary Frances Miller, Carlton Honebein, Ronald Bornbuetter, and Gail Ross. Other CAS presidents present but not shown are Irene Bass, Al Beer, Chuck Bryan, Allan Kaufman, and Jim MacGinnitie.

News From The CAS Annual Meeting

ARIA President Praises CAS Support

During the Annual Meeting on Monday, November 13, Dr. Jim Garven, president of the American Risk and Insurance Association, talked to CAS members concerning the longstanding and mutually beneficial relationship between ARIA and CAS. He noted that Steve D'Arcy has been president of both organizations. Dr. Garven, himself, has been involved with the CAS for nearly 20 years; presenting papers at ratemaking seminars and annual meetings and serving on the Committee on Theory of Risk and the CAS ARIA Prize Paper Committee.

Dr. Garven praised the CAS's continuous financial support of research by members of ARIA; specifically through the ARIA Prize Paper award. The award of \$1,000 is given annually for the paper published by ARIA—in either the *Journal of Risk and Insurance* or the *Risk Management and Insurance Review*—that is most valuable to casualty actuarial science. Historically, the ARIA Prize Paper has been awarded to papers published in the *JRI* on a broad range of topics including underwriting cycles, dynamic financial analysis, capital allocation for insurance companies, and insurance fraud.

CAS support of ARIA research has clearly paid off, Dr. Garven pronounced. ARIA members have contributed research findings that have influenced actuarial thinking about a number of important problems, including financial pricing models, DFA, fraud, and capital allocation. Dr. Garven said that he believed enterprise risk management represented another important area of potential cross-fertilization between the CAS and ARIA.

Dr. Garven concluded by recognizing the generous financial contribution the CAS made for the World Risk and Insurance Economics Congress in 2005. He encouraged members to consider going to the next WRIEC conference, scheduled for 2010 in Paris, France. For details on this event, please visit www.wriec.org.

Dr. Garven holds appointments at Baylor University as the Frank S. Groner Memorial Chair of Finance, Professor of Finance & Insurance, and Risk Management and Insurance Program Director, and at the University of Pennsylvania's Wharton School as a Visiting Scholar. For more information on Dr. Garven, visit <http://www.garven.com>. For more information on ARIA, visit <http://www.aria.org>.



Clues to Alan Putney Double-Croctic From page 32

| | | | | | |
|----|---|----------------------------|-----|---|-----------------------------------|
| A. | 246 46 143 208 118 95 | Crude | O. | 111 190 130 164 197 9 89 227 74 | NYC Island |
| B. | 157 218 65 179 3 39 93 77 105 135 | Resolute | P. | 113 167 30 212 75 146 92 134 5 64 | Recurrence |
| C. | 49 160 2 209 66 248 185 28 88 | Prescribed by law | Q. | 194 120 211 4 173 71 41 231 148 | In gnius |
| D. | 145 62 17 98 122 | Inhale through the nose | R. | 100 136 56 124 20 207 68 163 | Concise & compact |
| E. | 102 241 133 84 16 243 221 198 165 35 174 | Surroundings | S. | 19 137 103 1 223 200 58 | Noted 2005 hurricane |
| F. | 87 155 51 204 238 178 32 115 79 | Thanksgiving by-products | T. | 112 67 140 224 90 11 193 251 234 33 244 256 168 | Out of place in time |
| G. | 203 50 97 170 114 14 81 142 | Untied | U. | 44 13 83 169 187 217 57 128 | Creche scene |
| H. | 29 186 117 226 149 43 166 | Passed by | V. | 131 52 242 10 236 202 107 37 23 | Girl at a society ball |
| I. | 127 215 54 108 171 18 91 | Christen | W. | 26 247 153 138 110 53 63 191 222 240 199 177 | Knee jerk, e.g. (2 words) |
| J. | 210 59 38 235 82 123 253 192 229 7 172 | Odysseus (2 words) | X. | 78 27 219 161 129 189 214 180 96 48 225 175 206 257 | The upper class at Eton (2 words) |
| K. | 147 151 85 220 126 252 12 60 195 258 183 232 42 106 | The Silver State (2 words) | Y. | 104 237 159 40 132 188 213 24 | Most breezy or verbose |
| L. | 201 55 239 125 22 61 152 176 228 76 | Kindness | Z. | 94 156 144 73 6 116 31 | Water source |
| M. | 245 72 250 181 99 47 255 15 | The Insurance Capitol | AA. | 233 34 80 70 158 109 205 21 139 182 216 196 | Deplorable |
| N. | 119 254 184 8 141 36 249 154 69 230 | Risked | AB. | 121 86 101 25 150 45 162 | French composer |

New CAS Fellows and Associates

From the CAS Annual Meeting • November 12–15

NEW FELLOWS



1st Row (L-R): Daniel G. Myers, Christopher John Olsen, Jessica Elsinger Somerfeld, Stephanie Jo Odell, Jill Elizabeth O'Dell, **CAS President Paul Braithwaite**, Alejandro Antonio Ortega, Xuelian Wan, Jingtao Wang, Dorothy A. Woodrum
2nd Row (L-R): Sarah J. Shine, Sheila Rani Soulsby, Nannan Liu, Feixue Tang, Suzanne Mills Scott, Ju-Young Suh, Mindy M. Steichen, Luis S. Marques, Raul Gabriel Martin, Martin Ernest Wietfeldt
3rd Row (L-R): Jennifer L. Carrick, Jean-Philippe Plante, Christopher James Platania, Wei Zhao, Haixia Zhao, Brad Stephen Billerman, Natalie St-Jean, Amanda Jane White, Lynn C. Malloney
4th Row (L-R): Lynne K. Wehmueller, Daniel E. Mikesch, Aaron G. Mills, Michael V. Ziniti, Paul Quinn Stahlschmidt, Jonathan Kowalczyk Turnes, Christopher Morris White, Herman Lim, Ronald S. Scott
5th Row (L-R): Jonathan Kam Yu, Robert J. Zehr, Allan S. Voltz, Mark Steven Wenger, Ronald Harris Wilkins, Joshua Yuri Ligosky, Mundia Mubyana



1st Row (L-R): David Bruce Hackworth, Kelleen D. Arquette, Tiffany Jean Baron, Jennifer Graunas, **CAS President Paul Braithwaite**, Xin Allen, Kristi Spencer Badgerow, Daniel S. Barnett, Nathan Jaymes Hubbell, Trevor Casey Handley
2nd Row (L-R): Maxime Gelin, Joseph Marino Izzo, Catherine M. Larson, Annie Latouche, Andrew Hankuang Liao, Hoi Fai Leung, Amy Jiesoon Kim, Gregory P. Goddu, Victoria A. Gomez, Yu Shan Cathy Hwang
3rd Row (L-R): Kim R. Rosen, Amy Ann Juknelis, David J. Klemish, Nathalie M. Lavigne, Anh Tu Le, Christine K. Kogut, Jonathan E. DeVilbiss, Darjen D. Kuo, Marc-André Desrosiers, Matthew Timm Frank
4th Row (L-R): Marc-Olivier Faulkner, Jeremiah D. Johnson, Thomas R. Kolde, Jean-François Lessard, Keith William Palmer, Susan L. Klein, Amit Agarwal, William Scott Lennox, Ziyi Jiao, Eric Anthony Hatch
5th Row (L-R): Justin Radick, Gary S. Haase, Peter L. Forester, John B. Landkamer, Jean-Philippe Keable, William Joseph Hackman, Simon Girard, Keith Richard Cummings, Derek W. Freihaut



1st Row (L-R): Michael Alan Bean, Jon Paul Bloom, Morgan Haire Bugbee, Rachel Marie Boles, Jessica Yiqing Cao, **CAS President Paul Braithwaite**, Jeffrey M. Casaday, Joung-Ju Chung, Kirk Allen Conrad
2nd Row (L-R): Gina Ferst Bartnik, Simon Castonguay, Jeffrey Donald Belmont, Nicolas Boivin, Matthew C. Berasi, Peter George Blouin, Angelo Edward Bastianpillai

New Fellows not pictured: Michael Tsz-Kin Chan, Chad J. Covelli, Peter L. Forester, Timothy M. Garcia, Veronique Grenon, RenBin Guo, Chun Hua Hoo, Jennifer Ge Kang, Weichen Liu, Brian Craig Ryder, Erika Helen Schurr, Matthew L. Uhoda, Lang Zhang, Xi Zhu

NEW ASSOCIATES



1st Row (L-R): Bradley M. Rolling, John Lee Butel, Koosh Arfa-Zanganeh, Juan Carlos Rodriguez, **CAS President Paul Braithwaite**, Jie Xiao, Jacqueline W.Y. Shoon, Amanda Cater Marsh, J. Doug Moulton
2nd Row (L-R): Erin E. Schaaf, Leong Yeong Chew, Zhongmei Su, Beth A. Robison, Kenneth M. Decker, Max Chiao, Lauren Jill Cavanaugh, Nathan A. Lerman, John A. Annino, Rachel Radoff, Kevin Conway
3rd Row (L-R): Jonathan M. Knotwell, Taher I. Surattwala, Isaac Merchant, Laura M. Carstensen, Scott A. Kaminski, Brenda L. Koenig, Robert Jerome Foskey, Dorothy Lentz Magnuson, Victor Maximillian Cabal Victoriano
4th Row (L-R): Kathleen M. Midgley, Cary W. Ginter, Brent Sallay, John David Lower, Ebo Koranteng, Francois Langevin, Stephen P. Decoteau
5th Row (L-R): Kevin J. Christy, Donald K. Treanor, William M. Arthur, William Paige Rudolph, Jeannette Marie Haines, William Allen Hossom, Christopher James Stoll, Robert C. Birmingham, Christopher L. Wampole



1st Row (L-R): Annie Chang, Isaac R. Espinoza, Shawn A. Wright, Matthew S. Dobrin, Chandler P. Benson, **CAS President Paul Braithwaite**, Jason Arthur Clay, John R. Jasinski, Travis J. Miller, Cari Bergen Winebrenner
2nd Row (L-R): Wen Kong, Yun Song, Jennifer L. Blackmore, Kelly J. Hernandez, Hidy Hiu Yin Lee, Qin Zhao, Connie Zhicheng Xin, Juemin Zhang, Tong Xu, Julianne A. Callaway, Alice H. Tsai, Keri P. Davenport
3rd Row (L-R): Kamil K. Jasinski, Evan W. Glisson, Melissa L. Shelley, Erica F. Morrone, Gerald K. Howard, Victor Rui Min, Kimberly A. Borgelt, Kexin Li, Chung Man Ching, Laura N. Cali, Hyeji Kang
4th Row (L-R): Andrew P. Kempen, Ricky R. Poulin, Melisa L. Darnieder, Ali Ahmed Bukhari, Yiping Dou, Anton Zalesky, Kayne M. Kirby, Yue Zhao, David F. Lee, Chong Gao, Richard R. Ross
5th Row (L-R): Nitin Chhabra, Neil A. Greiner, Keith R. Berman, Wang Yang Hu, David M. Kaye, Anthony O'Boyle Beirne, Heather R. Caffoe, Timothy G. Wheeler, David J. Curtis, Brant Wiperman



1st Row (L-R): Helen A. Sirois, Rebecca R. McCarrier, Fan Ye, Anne M. Thomas, **CAS President Paul Braithwaite**, Laurel Yongtao Hu, Sarah Bhanji, Jiyang Song, Christopher SungKu Kwon, Arvelle D. Zacharias
2nd Row (L-R): Agnes HoSum Cheung, Sara Leclerc, Alison Therese Hover, Karen Cathleen Crosby, Elizabeth Bomboy, Amelie Beliveau, Tatyana Kerbel, Valerie Robitaille, Karine Julien, Kathy M. Thompson
3rd Row (L-R): Qiang Su, Rosalie Nolet, Yingnian Wang, Dawne L. Davenport, Ishmealn Boye, Guillaume Benoit, Jennifer Elizabeth Clark, Genevieve Aubin, Alexandre Cung-Rousseau, Eric Lussier
4th Row (L-R): Marie-Eve Nadeau, Laura M. Morrison, Kristin Marie Palm, Guowen Zhang, Paige M. Demeter, Gabriel Matthew Ware, Russell A. Creed, Jeffrey A. Lamy, Brian J. Mullen
5th Row (L-R): Eric L. Savage, Hugh D. Hopper, Samir Khare, Chris John Van Kooten, Mariane Takahashi, William H. Erdman, Francois Blais, Wade R. Hess, Hua Lin



1st Row (L-R): Joseph A. Gage, Houston Hau-Shing Cheng, Barbara Hallock, **CAS President Paul Braithwaite**, Jennifer Lynn Meyer, Zilan Shen, Sophie Robichaud, Seung-Won Lee
2nd Row (L-R): Amanda Lubking, Gang Zhou, Kan Zhong, David N. Prario, James M. Boland, Joshua L. Fishman, Monica S. Schroeter, Sean M. McAllister
3rd Row (L-R): Ginette Pacansky, John Jianlu Xu, Gareth L. Kennedy, Jason M. Rosin, Christopher G. Fanslau, Joseph Patrick Hasday, Shawn T. Chrisman

New Associates not pictured: Hussain Ahmad, George N. Argesanu, Robert Joseph Azari, Melissa Lillian Bundt, Sai Fan Chan, Chun Kit Cheung, Jeannine Marie Danner, Lucia De Carvalho, Ponniah Elancheran, Nicole Elliott, Christine Marie Fleming, Carol Ann Garney, Francois Godbout, Alla Golonesky, Scott P. Higginbotham, Mark C. Jones, Matthew R. Kuczaj, Jeffrey Leeds, Manjuan Liang, Xun-Yuan Liang, Chaim H. Markowitz, Ana Mata, Randy J. Murray, Rebecca Ann Polunas, Rhonda A. Puda, Christina B. Rosenzweig, Nicholas W. Saeger, Tang-Hung Trang, Steven L. Turner, Benjamin Walker, Shuk Han Lisa Yeung, Raisa Zarkhin

The Top Ten Casualty Actuarial Stories of 2007

By Vince Yezzi and Christina Gwilliam

The year 2006 saw a number of important issues and events affecting casualty actuaries. Based on a survey of CAS thought leaders, the top ten consensus picks are summarized in the accompanying chart. These stories reflect the wide array of issues and challenges facing today's casualty actuaries – and their employers and clients. In particular, these stories demonstrate the need for casualty actuaries to be proactive in making their voices heard in evolving areas of importance within the insurance industry. Enterprise risk management (ERM) and predictive modeling are two emerging fields in which actuaries have the opportunity to position themselves as critical thought leaders. In addition, our core practices of pricing and reserving still present important opportunities: to price optimally within the ebbs and flows of the insurance cycle; and to provide loss reserve support, documentation, and explanations that help our employers, clients, and other audiences better understand our best estimates of liabilities and appreciate the uncertainties inherent in this element of the balance sheet.

Here is the top ten listing for 2006:

10

Hard Market For Property Cat Risks Driven By Changes In Pricing Models & Capital Requirements Creates Alternative Capacity—Sidecars and Cat Bonds

The industry continued to feel the impact of the prior two extraordinary hurricane seasons. Refined catastrophe models combined with rating agency capital requirements put upward pressure on rates for both direct and reinsurance business. Rising rates attracted capital and resulted in an increase in the use of cat bonds and the development of a new mechanism, the sidecar. Actuarial expertise is needed to price these alternative risk financing vehicles; more importantly, actuaries can help the financial markets understand the risks within the insurance industry.

9

Federal Judge Rules That Insurer Flood Exclusions Do Not Apply To 2005 Levee Breaks In New Orleans

This ruling, if upheld on appeal, will have implications well beyond the estimated \$2 billion in additional cost to insurers. The legal precedent could be much more problematic. Current homeowners insurance rates do not contemplate losses from flood damage; if this decision stands, actuaries would need to consider a provision for such coverage in pricing future homeowners policies. Beyond homeowners, exclusions in policies from any line of business could be subject to challenge, requiring the actuary to consider “judicial risk” as well as other kinds of risk.

8

Risk Transfer Initiatives - Bifurcation Solution Not Likely To Pass

There is increased focus on the extent to which insurance contracts contain risk transfer, and whether they should be treated as reinsurance or be subject to deposit accounting treatment. One proposed solution is the bifurcation of accounting for such contracts into “insurance” and “deposits” for financial reporting purposes. In this approach, if a contract is deemed to have 30% risk transfer, then 30% of the contract would be accounted for as reinsurance and 70% would be accounted for as a deposit. Though this particular proposal seems unlikely to be approved, actuaries have clear expertise in the assessment of risk transfer and will continue to play a significant part in any discussions involving risk transfer initiatives, and in the interpretation and implementation of risk transfer definitions for specific transactions.

7

Finite Reinsurance Probes Continue

Finite reinsurance arrangements continue to come under scrutiny by the SEC. In particular, a trial is expected to start in March where an actuary, in his role as CEO, is among those charged with using finite reinsurance-style arrangements to manipulate the financial statements of an insurer.

Actuaries have a significant contribution to make in the evaluation for risk transfer within insurance contracts. More broadly, this situation reminds us that actuaries, in the various roles they play, are increasingly being held legally responsible for their work product and for the impact of their work product on their employers' and clients' financial futures.

| Rank | News Story | Actuarial Significance | Votes | | |
|------|---|---|-------|----------|-------|
| | | | Sum | #1 or #2 | Total |
| 1 | Companies continue to sort out what ERM means for them, as S&P focuses on ERM for rating evaluation | Opportunity for actuaries to assist management in understanding and addressing the full array of risks facing the organization | 383 | 10 | 39 |
| 2 | SEC questions companies on reserve range/variability | Actuaries need to start disclosing more information about reserve ranges as well as point estimates | 362 | 6 | 39 |
| 3 | Continued pressure on audit firms results in more critical review of underlying actuarial work | Actuarial profession needs to continue to clearly define its principles and standards of practice for reserving, and educate report users on limitations of estimation techniques | 346 | 9 | 36 |
| 4 | P/C Cat models continue to evolve | Need for actuaries to assist in catastrophe risk recalibration | 278 | 4 | 33 |
| 5 | Use of predictive modeling spreads to mid-sized and regional personal lines carriers, and to commercial lines | Actuaries need to think outside the box to identify new rating variables and continue to test impact on pricing | 265 | 7 | 30 |
| 6 | Casualty softening market continues | Actuaries' analyses and voices must be heard to avoid underpricing and subsequent financial problems | 248 | 9 | 25 |
| 7 | Finite reinsurance probes continue | Actuaries are increasingly being held legally responsible for their work product | 216 | 3 | 26 |
| 8 | Risk Transfer Initiatives—bifurcation solution not likely to pass | Actuaries need to be involved in the analysis of risk transfer | 190 | 7 | 20 |
| 9 | Federal judge rules that insurer flood exclusions do not apply to 2005 levee breaks in New Orleans | Current rates do not contemplate the extension of such coverage | 182 | 4 | 23 |
| 10 | Hard market for property cat risks driven by changes in pricing models and capital requirements creates alternative capacity—sidecars and cat bonds | Opportunity for actuaries to be involved in creating and pricing these new insurance tools | 171 | 3 | 18 |

6

Casualty Market Softening Continues

Casualty prices have been on the decline since the fourth quarter of 2004, according to surveys by Tillinghast and by the Council of Insurance Agents and Brokers. Yet reported loss ratios continue to be favorable for many sectors in the casualty market. Profitable experience has been attracting increased competition which in turn creates downward price pressure. Actuaries need to be effective in analyzing the recent results, in projecting them into the future, and in interpreting and communicating the results of the analyses to management—all in support of the objective of determining the optimal price, and avoiding irrational exuberance in the quest for increased business volume.

5

Use Of Predictive Modeling Spreads To Mid-Sized And Regional Personal Lines Carriers, And To Commercial Lines

The use of nontraditional criteria, especially credit scoring, for rating and underwriting personal lines has enjoyed a significant amount of business success, as well as associated controversy. The use of such criteria is now extending beyond personal lines in larger companies, to midsized and regional carriers as well as to the commercial lines arena. Actuaries can play a major role in determining what additional rating variables have a strong correlation with claims, and in testing the impact of proposed criteria on pricing, underwriting and marketing.

4

P/C Cat Models Continue To Evolve

Though insurers have come a long way since Hurricane Andrew, when risks were not geocoded, there is still work that needs to be done to improve the classification of the exposure data input. Similarly, the data used to create the model assumptions has been continually refined but is limited, as only about 100 years of weather data have been recorded. This is relatively small given the cyclical nature of hurricane activity. As with the loss reserving stories (#3 and #2), the results of cat models—and the interpretation of those results—represent a significant communication challenge to assist various audiences in understanding that actual storms will likely not behave like any of the modeled storms, or like the mean or any other summary statistic from a modeling exercise. This characteristic of the process of modeling the potential distribution of unknown and widely variable future events is not a shortcoming of the modeling process.

Notwithstanding the foregoing comment, it is also clear that actuaries have a role to play in the continuing evolution and recalibration of cat models.

2

SEC Questions Companies On Reserve Range/Variability

In a related story, the SEC continues on its path of seeking supplemental information related to loss reserves in the Management Discussion & Analysis (MD&A) section of property/casualty insurance company SEC filings. Currently, management must provide information about historical reserve performance, disclose reserve ranges, discuss the different assumptions and methods used to arrive at the high and low end of the range as well as the point estimate, and disclose sensitivity analysis to these key assumptions. Actuaries need to be prepared to support the preparation of such information with their employers and clients. The profession collectively also has the opportunity to help convey the fundamental uncertainty in future claims results so investors can better understand the inherent risks within the insurance sector.

3

Continued Pressure On Audit Firms Results In More Critical Review Of Underlying Actuarial Work

Sarbanes-Oxley has brought increased regulatory scrutiny of the insurance industry in general, including the work of auditors and actuaries. A natural result of this is an increased focus on the reported loss reserves, and the process of estimating the claim liabilities. Actuaries need to step up their game in educating the direct and indirect users of their work product about the inherent uncertainty and volatility in claim projections, and that reasonable variations between actual results versus projected results are likely. The actuarial profession needs to continue to refine its principles and standards of practice for reserving, and to further develop the techniques, practices, and communication tools relating to loss reserve ranges and uncertainty.


1

Companies Continue To Sort Out What ERM Means For Them, As S&P Focuses On ERM For Rating Evaluation

The increased use by insurance companies, corporations and rating agencies of enterprise risk management provides actuaries with a significant opportunity to contribute to this emerging field. Actuaries are well suited to take on the role of Chief Risk Officer or Strategic Risk Manager. Actuaries have the skills to lead the effort in understanding and addressing all of the risks that an organization faces, being well-versed in the concepts of accumulation of exposure and correlation between risk factors. In doing so, however, actuaries need to avoid overly complex models that provide little value to the organization, and instead need to identify and address risks to achieving the strategic goals. Actuaries need to effectively communicate within all areas of the organization to build a model encompassing firmwide risks and get buy-in from all stakeholders.

The chart on page 17 summarizes the results of the survey. Fifteen points are awarded to a story receiving a first place note, down to six points awarded to a story for a tenth place vote.

We have compared the consensus top ten stories with the responses of individual survey respondents, to determine the closest predictors of the top stories and their ranks. Congratulations to this year's winners, who tied for first place with nine of the consensus top ten stories: Jeff Raguse was one winner, the other was an anonymous submission. Third place goes to Chris Carlson with eight of the consensus top ten stories.

Thanks to all of those who participated in this year's survey! 

Apparently, the following personal ad was posted on the Chicago Craigslist Web Site and has been circulating in e-mails. I thought it was amusing enough to pass along:

Are you an actuary?

Date: 2006-09-14, 11:19AM CDT

I've given a bit of thought to what kind of man I want to date, and I've determined that an actuary would be a good match for me.

(Yes, I'm serious.)

So, why an actuary?

Let's not beat around the bush: I love nerds. Actuaries know math in and out. They take half-days on Friday to study for their CAS/SOA tests. Their analytical skills are top-notch. Now add to it that they need decent social skills to meet the job's communications requirements. In sum, actuaries are well-rounded business people who know how to write formulas.

Math + Business = **HOT**

And why would an actuary be interested in me?

- **I'm fiercely independent.** When you're busy studying, I'm not going to distract you by calling every 15 minutes to see if you're done yet. I have a great group of friends I see regularly, read a few books per week, run marathons, sing in a chorus, and volunteer in my spare time. I'm always on the go, and I'd love someone with similar time commitments who will appreciate that I'm not in your business all the time.
- **I'm stable.** Career, home owner, good friends, well-read, healthy lifestyle, educated, debt-free, hobbies and outside interests, church membership, no criminal record or mental health issues, etc., etc., etc.
- **I'm posting an ad in a public forum saying that being an actuary is a turn-on.** How often does that happen?

Actuaries only. Have similar qualities to those I have listed in the "I'm stable" section. Being able to fix either car, computer, or house stuff is appreciated. Must kill scary bugs. Couch potatoes will be denied. Pic for a pic. No jokes about figuring the probability that we'll actually end up together. That's a little too nerdy.

If the above ad got you worked up and you were wondering if you were qualified to respond, I thought I'd include this helpful guide (with apologies to Jeff Foxworthy):

You might be an actuary if...

- You've either made or enjoyed a joke based on a probability distribution
- You have a favorite calculator
- You have a big office with nothing decorating the walls except an old Excel print-out
- You look up the percentage of naturally occurring carbon-14 because the question came up in a casual conversation with fellow actuaries
- You already knew it was about 1 part in a trillion
- You balance your checkbook with Excel
- You write memos in Excel
- You base your self-worth on how many exams you have (but wait, isn't that how it is supposed to be?)
- Your friends ask you if you can get them their insurance any cheaper
- The opposite sex finds you irresistible (well, okay, maybe only in the Chicago area)
- You actually read the entire *Actuarial Review* and save the issues for posterity

Property/Casualty Reserving Seminar Held in Beijing

By Jenny Lai, FCAS

As one of many CAS members who would like casualty actuaries to have greater recognition through the world, I recently participated as a speaker at a reserving seminar in Beijing, China. Held November 27–28, 2006, the seminar was cohosted by the Chinese Insurance Regulatory Commission (CIRC—the government regulatory body) and the International Actuarial Association (IAA), focusing on property and casualty reserving methods.

The number of credentialed property and casualty actuaries in China is small today, but it has been growing steadily and will continue to grow by exam progress as well as by some credentialed actuaries moving to China. Nearly 170 people attended the seminar, representing approximately 40 different Chinese domestic insurance companies (essentially the entire market), local universities, consulting firms, and CIRC itself. No doubt a part of the impetus for such an excellent turnout was the recent implementation of appointed actuary requirements for loss reserves (as well as for pricing) in China. The attendees were predominantly local actuaries with relatively few years of experience; most of them are making great progress on the exams of either the Society of Actuaries of China or one of the international actuarial bodies, or both. Other CAS members in attendance included Bob Conger (also a speaker), Bruce Moore, Lang Zhang, Trevor Ty, and Cathy Hwang.

Speakers from CIRC and IAA launched the seminar, articulating the objectives and need for the seminar, and setting an ambitious but positive challenge and agenda in front of the technical sessions.

Most of the sessions were focused on fundamental and basic issues in reserving, including loss reserving, loss expense reserving, premium reserving, and data quality. Speakers and attendees noted some of the challenges created by the paucity of data in relatively new companies, the effects of rapid growth (premium in the Chinese markets has doubled to 130 billion yuan—approximately U.S. \$16 billion—in the past four years), and the challenges that some companies face in assembling data for the actuaries. All of the companies face the further challenge of pricing and reserving business written under China's new compulsory, third-party liability auto coverage.

The variety of speakers for the technical sessions helped keep the seminar lively. The thirteen speakers included local people and foreigners (some very experienced and others less experienced), some insurance company actuaries, and other actuarial consultants. Presentations and handouts were alternatively in Chinese or English—and sometimes both! No formal translation was provided, but bilingual participants helped out informally when needed. We learned that “Bornhuetter-Ferguson” is pronounced the same in every language!

The inclusion of local speakers and the discussion participation of some of the most experienced local attendees, who could speak from hard lessons learned in the real environment, added considerably to the richness of the material and to the audience engagement.

In addition to the official question-and-answer sessions during the seminar, there were very good prospects for informal conversation during breaks and meals. The dialog among attendees and speakers was lively and multifaceted, and the conversations

provided a great opportunity for actuaries from inside and outside China to exchange their experiences. It was also a welcome opportunity for actuaries from different walks of life to become personally acquainted. Throughout the seminar, we certainly enjoyed warm and gracious hospitality and delicious food.

Special thanks to the two hosting organizations, CIRC and IAA; to the speakers; to the seminar sponsor Hyundai Marine & Fire Insurance Company (Korea); to Renmin



The author, far left, and Bob Conger (second from left) pose with members of the Society of Actuaries of China and other CAS members who met at the CIRC-IAA Seminar (photo courtesy of Bob Conger).

Beijing page 23

A Viennese Swirl

The annual gathering of U.K. property/casualty actuaries (GIRO or General Insurance Research Organisation) took place at the end of September 2006 in Vienna, Austria. It may have been the exotic location, or it may have been the recently revised compulsory formal continuing professional education requirements, but this was the largest attendance by far. A total of 530 actuaries enjoyed the Viennese culture, chocolate cake, beer, and the Danube.

Nick Dumbreck, the president of the Institute of Actuaries, gave an inspiring opening address where he applied a variety of general insurance actuarial techniques to project the number of GIRO attendees in 2031. In true actuarial fashion, he obtained results ranging from 2,500 to 5,000 and then he fit a distribution to determine the uncertainty. This was even more amazing considering he is a life actuary!

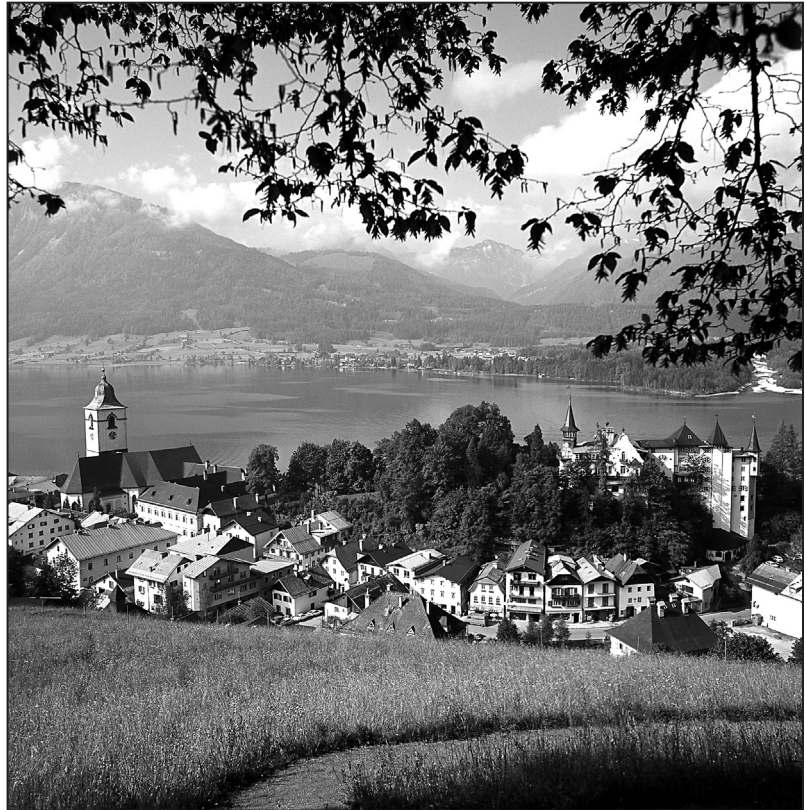
Overall, there were two main themes running through the conference in the plenary sessions and the workshops: GRIT 2 and Solvency II.

Most people have heard of GRIT (the General Insurance Reserving Issues Task Force), which has spent the last two years investigating the mistakes of the reserving actuaries and making future recommendations. It was determined that the good work of GRIT needed to be continued and implemented, but that GRIT 2 was a boring name. So, welcome GI ROC (cue “We Will Rock You” by Queen!) or the General Insurance Reserving Oversight Committee. Tony Jones presented a plenary session on “Estimating and Communication of Reserving Uncertainty,” where he discussed the achievements of GRIT and unveiled (unleashed?) ROC on the public. ROC will have four work-streams as follows:

- Which methods worked well and when
- Terms and conditions and other coverage issues
- Best estimates and estimating uncertainty
- Reserving and The Underwriting Cycle

These working parties are currently recruiting members and would certainly appreciate input from across the pond.

Solvency II is becoming increasingly important for actuaries.



The hills were alive at the GIRO convention in September 2006.

The European Commission wishes to have a consistent regulatory regime across all its member states and is several years into the process of determining the form of the regulatory regime. It is also intended that Solvency II will dovetail nicely with the new International Financial Reporting Standards. Actuaries are now beginning to play a key role as issues such as risk margins are becoming important. There was a plenary session presented by Kathryn Morgan and Annette Olesen on the key developments. Kathryn, in true European gobblespeak tradition, included a number of acronyms in her presentation and challenged the audience to count them promising a prize for the actuary who got the number correct. Only after much encouragement and cheating did the true answer of 13 emerge.

Kathryn also challenged actuaries for alternative meanings for CEIOPS—the Committee of European Insurance and Occupational Pensions Supervisors, pronounced See-Ops. The winning entry was “Club for Evil Iniquitous Overloads Persecuting Society” from Lis Gibson while the runner up, “Cranky Europeans Insult Our Perfect System,” was by yours truly.

NONO, Annette!

W

hen I am complimented on my attire, I often explain that my wife, having grown too old to play with dolls, now dresses me!

One of our Fellows—Annette Goodreau—still plays with dolls and has developed this hobby into a business.

Doll-making is a logical extension of the Goodreau family's life-long fascination with toys. She, her mother, and two sisters are all passionate doll collectors who frequent toy trade shows and have many friends in the community. Annette has been known as the one with the best toys since her college days at UC Berkeley and throughout her professional career.

Annette's sister Paulette is an artist and a designer who started making cloth dolls in 1998. In 2004, her entry in a competition at the Doll and Teddy Bear Expo—a simple cloth doll with purple hair and a hand-sewn face—was judged to be so ugly that she was awarded a third place ribbon, even though she had the only entry in the "Amateur Cloth Doll" category!

The dolls' unusual appearance made them stand out in any crowd, and soon after the ill-fated doll competition a friend in the toy industry asked for a doll of her own. Excited by the interest, Paulette and Annette (the marketing and business brains behind the endeavor) brought the doll to the January 2005 IDEX East, a trade show in Orlando. The sisters had christened their dolls "NONO" after Paulette told the purple-haired doll, "No, no, little one, you're too ugly to leave the house." The name stuck and now the crazy face and homemade-looking stitches are standard features of their cloth doll line.

After IDEX, interest in the quirky dolls surged, and Annette and her sister got down to the business of marketing their product to the toy industry, formulating a concept and design for the product line (including a mock-up, sculpt, or drawing of the doll), as well as manufacturing, distributing, and pricing them. Though there is very little uncertainty involved—only hard costs and consumer reaction to consider—pricing is one of the duties that falls to Annette, the numbers person. Compared to insurance pricing, she says, it is a relaxing exercise.

The doll line debuted last February at the biggest show of all—Toy Fair 2006 in New York City—a convention where every exhibit brings to mind a carnival stand, and where the sisters had to keep a close watch over the NONOs, lest the toy rockets in the next booth came shooting over the divider to knock them down.

Debuting at an event as large as Toy Fair can be a stress-

ful affair fraught with great expectations.

To forestall any tension and start on a light note, Annette

set their goal at one sin-

gle order, a quota that was met with

ease! Their booth received unusual interest, rang-


ing from a curious voodoo shop owner to an animator who thought the NONOs could make great cartoon characters.

They did miss one opportunity for a prestigious coup. The buyer for Barney's of New York wanted to order a couple of styles of NONO dolls. But they had told all interested buyers that they would only sell the first line of eight NONOs as a set. Their doll industry friends are still ribbing them about being the start-up (or rather upstart) doll company that said "no" to Barney's.

With or without Barney's, the sisters' endeavor is going strong. Currently they have two lines of dolls—NONO™ and Snappy™. NONOs are simple cloth dolls with crazy faces (designed in the style of Paulette's original third-place competition doll) and a short rhyme on their tags. There are 10 styles in all, such as, "NONO Ted, you ain't right in the head!" A newer development, Snappy™, is a brightly colored 8-inch vinyl doll with removable legs, arms, head, and wig. Since all Snappy™ dolls interact together, the more dolls kids collect, the more combinations they can create.

A third doll, a cheery, soft, and squishy character for infants called the Squishy Moe™ is being developed. The prototype has been generating great interest from retail buyers and collectors, one being an obstetrician who wants to give one away to every baby that she delivers. This new product is particularly dear to the sisters' hearts because it was motivated by the recent birth of their identical twin nieces, to whom they expect to give a very extensive collection of dolls. All their lines and retailers can be found at www.goodreudoll.com.

Thanks to Annette, Paulette, and the NONO dolls, ugly is the new cute.

Annette Goodreau is senior vice president & chief actuary of Houston Casualty Company in Houston, TX. She is also chairperson of the CAS Program Planning Committee. 



Two dolls from the NONO™ line.

Variance Chosen as New Name of the CAS Journal

At the 2006 CAS Annual Meeting in San Francisco, Vice President-Research & Development Roger Hayne announced **Variance** as the new name for the CAS journal and “Advancing the Science of Risk” as the journal’s tagline. The name was selected after an intensive process that included soliciting suggestions from members and working with a branding expert. The Publications Implementation Task Force is currently working with a design firm on the layout and cover for the first issue, which is set to release this May.


To be part of this exciting step in CAS history and submit your paper, please visit <http://www.casact.org/about/index.cfm?fa=guides>.

Beijing From page 20

University, which provided the conference facility and a team of students and faculty members to help keep everything running smoothly; to Pat Kum and her team in the Actuarial Society of Hong Kong who helped with planning and logistics; and to the CAS, which helped create a significant amount of the seminar content. All contributed to a successful and enjoyable event. One measure of success: preliminary plans are already in the works for a pricing seminar in China in 2007.

It was a real pleasure for me to participate in a successful and worthwhile event like this seminar. This type of event will definitely be beneficial to establishing a closer relationship between the Chinese insurance industry and the global actuarial bodies, and to the CAS becoming more widely recognized in China.

Other Visits

In separate trips Bob Conger and I also had the opportunity to speak to the Actuarial Society of Hong Kong and a sizeable group of practicing actuaries in Taiwan; to speak with groups of students and professors at two universities in Hong Kong, one university in Taiwan, and two universities in China; to visit several insurance companies where we discussed various perspectives on the role of the actuary and the opportunities and challenges facing the profession; and to visit informally with regulatory officials. We came away impressed by the challenges facing the insurance industry, the actuarial profession, and individual actuaries in Asia, but very excited by the opportunities ahead! 


GIRO From page 21

The Brian Hey Prize for the best paper with the most relevance to general insurance actuaries was presented to the Catastrophe Modelling Working Party. They also presented their work at a plenary session.

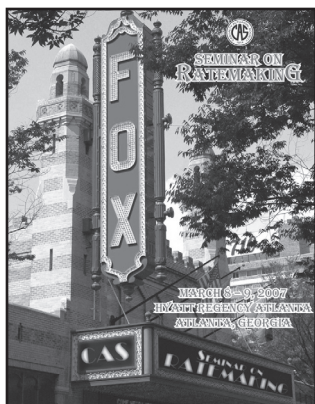
Other plenary sessions were held on the topics of general insurance premium rating issues, reinsurance matters, financial economics and insurance risk, risk margins and reserves, embedding capital models in the business, and treating customers fairly. External speakers included Dr. Klaus Wegenkittl, president of the Actuarial Association of Austria, Scott Collings from Australia, and our own Don Mango, who provocatively threw out seven controversial statements and then proceeded to convince us that we had it all wrong.

There were 44 workshops on a wide variety of topics ranging from capital structures to Lloyd’s issues. There was also a workshop titled “Working Parties in the CAS” from Mark Shapland and one on “ERM in General Insurance,” presented by Don Mango.

As usual, all papers will be on the Institute of Actuaries Web Site at www.actuaries.org.uk.

Next year’s GIRO will be held October 2-5 in Newport, Wales at Celtic Manor, home of the 2010 Ryder Cup. Maybe if enough golfing CAS members show up we can have our own Actuarial Ryder Cup? 

Ratemaking Seminar Offers Multiple Opportunities



Special Business Skills Session Offered

The 2007 Ratemaking Seminar will be held at the Hyatt Regency Atlanta, March 7 through 9. Located in the heart of downtown Atlanta, the Hyatt Regency is an easy commute from most places in the U.S.

Keynote speaker, Mark Lyons, president and chief operating officer at Arch Insurance Group, will share his view of the underwriting cycle in his keynote address.


Following the keynote address, more than 40 different concurrent sessions will be offered, covering data management and technology; workers compensation; commercial lines; personal lines; predictive modeling; risk and capital management; regulatory, reinsurance, and specialty topics; and discussion papers. The

seminar will conclude with a general session presentation on the work of the U.K. Pricing Issues Taskforce (GRIP).

Improve Your Presentation Skills

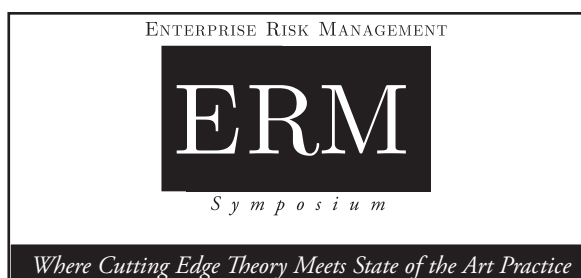
In addition to having access to more than 40 presentations at this year's Ratemaking Seminar, meeting attendees can also learn how to improve their own presentations at a special pre-seminar session. On March 7, the Committee on the Ratemaking Seminar and the General Business Skills Education Committee will offer "Powerful Public Presentations." Session Instructor Sherrie Dulworth will share strategies designed to help technical speakers strengthen their public presentations to nontechnical audiences. Attendance for this special session is limited to the first 25 registrants.

Register Soon!

February 23 is the last day to register without the \$50 late fee, so don't wait to sign up and take advantage of these opportunities! For more information on the seminar, visit the CAS Web Site at www.casact.org. 

Enterprise Risk Management Symposium in its 5th Year

The 5th Annual Enterprise Risk Management (ERM) Symposium will be held March 28–30, 2007 at the Chicago Marriott Downtown Magnificent Mile. Cosponsored by the CAS, the Society of Actuaries (SOA), and the Professional Risk Manager's International Association (PRMIA), the Symposium is an excellent opportunity for actuaries to learn more about and become involved in enterprise risk management.



risk interactions, economic capital, integrated ERM, and how value is created through ERM processes. In an effort to broaden actuaries' perspectives beyond insurance, sessions will also be offered on ERM in banking, energy, and other non-insurance organizations.


At Friday's luncheon, Dr. Terrance Odean from the Haas School of Business, University of California, Berkeley, will present research and discuss the implications of behavioral finance on ERM.

Symposium Highlights

The Symposium will again include a full general session program featuring leading industry speakers, 30 concurrent sessions selected from an overwhelming response to the invitation to present, and three separate workshops to be held Wednesday March 28. This year, an entire workshop will be devoted to operational risk.

On Thursday March 29 and Friday March 30, sessions will explore topics such as financial and investment risks, correlation and

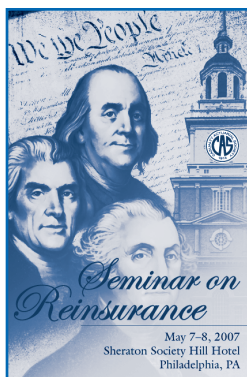
Exhibit Space Available

The CAS is also offering a limited number of 10' x 10' exhibit spaces for this event. Exhibitors receive two complimentary registrations to the Symposium. Showcase your company's products and services to the large number of key risk management and investment professionals expected to attend by reserving exhibit space. For additional information, please contact Carrie Rice, CMP, at crice@casact.org. 


Philadelphia to Host the 2007 Reinsurance Seminar

On May 7 and 8, 2007, the Sheraton Society Hill Hotel in Philadelphia, Pennsylvania will host the 19th annual CARE Reinsurance Seminar. The hotel is located four blocks from Philadelphia's renowned Independence Hall in one of the most historic areas of America. It also features relics from the past 200 years that were discovered in an archaeological dig before the hotel's construction.

Past reinsurance seminar sessions have covered topics including catastrophe modeling, environmental



liability, unique applications of exposure rating, and parameter risk. The CAS Reinsurance Committee will also host the Reinsurance Research Corner, a forum where participants can present projects they are working on, or have recently completed, that pose new problems and demonstrate innovative practical approaches.

A registration brochure for the seminar will be mailed to members in April. More information will also be posted on the CAS Web Site at www.casact.org. 

Double Your Pleasure with the 2007 CAS Spring Meeting and ASTIN Colloquium!

This year, CAS members have the unique opportunity to attend in one location both the CAS Spring Meeting and the 37th ASTIN Colloquium—during which ASTIN's 50th Anniversary will be celebrated June 17–22 in Lake Buena Vista, Florida.

The 2007 CAS Spring Meeting begins on Sunday, June 17 and runs through Wednesday, June 20. The meeting will provide substantial opportunities for continuing education, with sessions covering a variety of current, relevant, and important actuarial topics. General sessions will focus on homeowners insurance issues in Florida and Solvency II, among others. Ample time will be available for informal discussions and even some relaxation under the Florida sun.

The ASTIN (Actuarial Studies In Non-life insurance) Colloquium will also be held in Lake Buena Vista. Colloquium registration begins along with a welcoming reception on Tuesday, June 19. The Colloquium provides a forum for actuaries from around the world to discuss and share ideas solving current and future issues affecting the insurance industry and the actuarial profession.


June 20 is a unique joint day of the CAS and ASTIN meetings, kicked-off with a keynote presentation by Naomi Robbins, an expert on graphically displaying data. Dr. Robbins

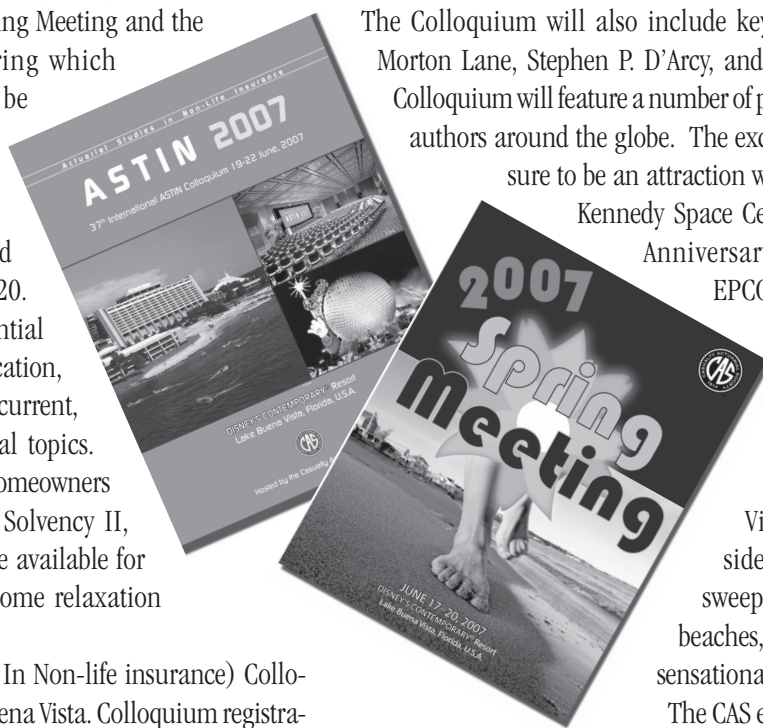
will discuss "Visual Presentation of Quantitative Information."

The Colloquium will also include keynote presentations by Morton Lane, Stephen P. D'Arcy, and Hans Bühlmann. The Colloquium will feature a number of paper presentations from authors around the globe. The exciting social program is sure to be an attraction with an excursion to the

Kennedy Space Center and ASTIN's 50th Anniversary Gala, to be held at EPCOT® Center.

The meeting site for both events will be *Disney's Contemporary®* Resort in Lake Buena Vista, Florida, a lake-side resort complete with sweeping views, white sand beaches, wide-open spaces, and sensational style.

The CAS encourages its members to take advantage of this unique opportunity to expand their global horizons and celebrate ASTIN's jubilee by attending both the Spring Meeting and the ASTIN Colloquium. Participants registering for both events will benefit from a reduced registration fee. Additional information can be found on the CAS Web Site at www.casact.org and the ASTIN Colloquium Web Page at www.actuaries.org/ASTIN2007. 



An Introduction to ERM-II

The ERM Institute International (ERM-II) is a nonprofit educational and research organization, initiated by an international group of universities and professional organizations. It focuses on education, research, and training within an enterprise risk management conceptual framework.

The CAS is a founding member and has played a leading role in the formation and development of ERM-II. Other founding members of ERM-II include a worldwide network of university graduate programs in quantitative risk management, among them Carnegie Mellon University, Columbia University, Georgia State University, Heriot-Watt University (U.K.), University of Illinois, University of Lyon (ISFA, France), the University of New South Wales (Australia), and the University of Waterloo (Canada). The Institute of Actuaries of Australia and the ERM Initiative of North Carolina State University are also founding members of ERM-II. For more information on ERM-II, please visit www.ermii.org.

Recent activities of ERM-II include:

- ERM-II launched accreditation of university programs. The standards for university program accreditation are founded on the premise of improving the competence of those entering the risk management profession by ensuring a minimum level of technical competence and enough breadth across mathematical, economic, and financial engineering tools required to conduct sound quantitative risk analysis, as applied in a range of industries.



Participants of the second ERM-II Board Meeting in New York City on November 4, 2006.



- ERM-II has published a research project “Enterprise Risk Management for Property-Casualty Companies.” The CAS and the SOA/CAS Risk Management Section cosponsored this research project.

- ERM-II partnered with Wuhan University to host the 2006 International Forum on Enterprise Risk Management. Leaders from fifteen major Chinese universities with financial engineering and actuarial programs attended the conference. In addition, leaders from the banking industry spoke at the conference. Gary Venter, Shaun Wang, and Ken Seng Tan attended this conference as ERM-II representatives.

- ERM-II jointly hosted the Columbia University research conference on November 3, 2006 in New York City. In conjunction with the joint conference, ERM-II held its second board meeting, which was attended by academic and business leaders in insurance, banking, and accounting. The board reviewed the current strategic position, set strategic goals and directions for the next year, and appointed officers and subcommittees to implement the strategic plan.

The ERM-II Board appointed Wayne Fisher as the new executive director. Jim MacGinnitie, chairman of board, said, “The whole board is extremely pleased that Wayne takes on the leadership role. Being a past chief risk officer of one of the largest financial conglomerates, Wayne is best qualified to lead the development of this organization.”

Dr. Shaun Wang, the outgoing executive director, has been appointed as the scientific director to lead the ERM research activities.

John Kollar, the CAS Vice President-Risk Integration, has been elected to join the ERM-II Board and Executive Committee.

ERM-II welcomes the CAS membership to get involved in joint educational and research activities. 

25 Years Ago in *The Actuarial Review*


Providing for Special Interests

by Walter Wright

In "From the President," Steve Newman reported that an ad hoc committee recommended ways to provide for special interests and specialties within the CAS. Although we didn't move to "specialties" within the CAS, we now have a myriad of special interest seminars and committees.

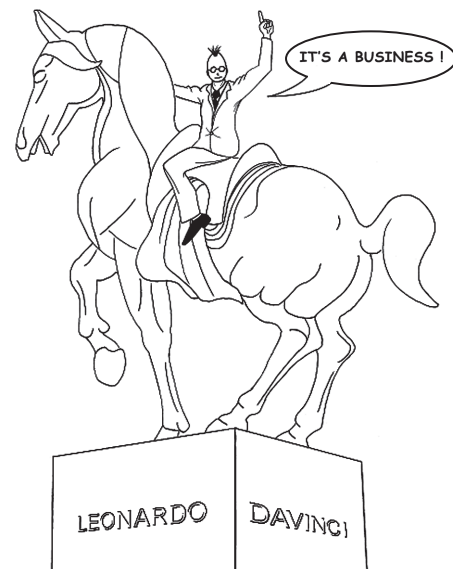
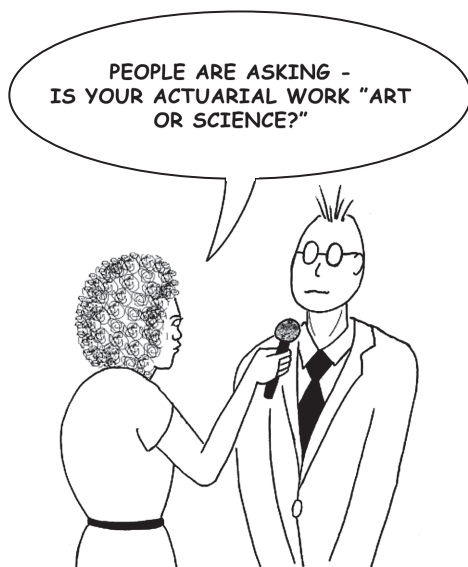
I like working with actuaries. I've hired quite a few during my business career and put them into many different job situations. Almost always it's worked out well. They're bright people whom I'd characterize as "students of business," i.e., the kind of persons who, finding themselves in the insurance business, are interested and actively involved in learning how the whole industry works.

Actuaries who have worked with me have applied their training and talents successfully to data processing, product development, risk management, and state relations, as well as ratemaking; to reinsurance, financial analysis, acquisitions, and investments, as well as reserve studies. Most of the time their new assignments began as just one aspect of their old ones, but in time clients who have been served by actuaries in new assignments grow to anticipate that such useful actuarial services will be provided regularly. Some actuaries find themselves spending most or all of their time in the new area. And that is one way actuarial special interests are born.

Last year the CAS Board of Directors officially and positively recognized the growing number of special interests represented by our membership. Prodded by a request for official CAS recognition from a group of actuaries whose special interest is insurance regulation, the board appointed an ad hoc committee headed by Dan Flaherty to recommend ways of providing for special interests and specialties within the CAS. Dan and his committee delivered their fine report at the November Board meeting. They proposed we establish the concept of Sections within the CAS organization, and suggested a procedure under which such Sections might be formed and become officially recognized. 

Chance Encounters

By Jeff Adams



Correction: The title for last month's cartoon was missing. It was entitled, "The Undevelopable Loss Development Triangle." The AR apologizes for the omission. To view the November 2006 cartoon, please visit <http://www.casact.org/newsletter/index.cfm?fa=viewart&id=5322>.

No “Mickey Mouse” Rules Here

Refresh your Professionalism Skills for Free Before the CAS Spring Meeting


By Kevin M. Dyke, FCAS, MAAA, Vice Chairperson, Committee on Professionalism Education

If the CAS Spring Meeting, the ASTIN Colloquium, and the nearby attractions weren't enough to bring you to Orlando in mid-June, you now have the opportunity to brush up on your professionalism skills at the free Limited Attendance Seminar on Actuarial Professionalism.

Developed and staffed by members of the Committee on Professionalism Education (COPE), the course content closely follows the CAS Course on Professionalism required of all new members since 1991. It provides an overview of the CAS Code of Professional Conduct as well as the key Actuarial Standards of Practice applicable to casualty actuaries. The Code of Professional Conduct (Code) and relevant Actuarial Standards of Practice (ASOPs) provide the framework for every practicing actuary to ensure that they provide actuarial services with the utmost standards of conduct, practice, and qualifications. After a brief overview of the Code and ASOPs, the course will continue with the case study method to allow attendees to practice their knowledge of the Code and ASOPs in real situations with ethical challenges.

Actuarial professionalism has received much attention in

the press in recent years. Standard & Poor's issued a 2003 report blaming the actuarial profession for reserve shortfalls, requiring a formal response by the AAA¹. In 2005, the AAA responded to the Morris Review, which raised questions about the accountability, integrity, and professionalism of actuaries in the United Kingdom and abroad². The actuarial profession in the United States has withstood these and other criticisms due to the strength of the actuarial professionalism standards, namely the Code and ASOPs. These professionalism guidelines, however, are only effective if the actuarial profession embraces these guidelines in daily work.

Recently, the AAA Committee on Qualifications recognized the importance of continuing professionalism education in the second draft of the revised Qualifications Standards indicating that “sessions on professionalism topics can be particularly useful and actuaries are encouraged to include them as part of the continuing education requirement.” Although the revised qualification standards have yet to be finalized, the Actuarial Professionalism seminar would satisfy current continuing education requirements as an “organized activity.” 

¹ Press release, American Academy of Actuaries, November 21, 2003.

² Response to the Morris Review's interim report on the U.K. actuarial profession, American Academy of Actuaries, February, 2005.

ARIA CALL FOR PAPERS

Authors are encouraged to submit a proposal to present research findings at the 2007 Annual Meeting of the American Risk and Insurance Association (ARIA), which will be held August 5-8, 2007 in Québec City, Canada. Papers on any risk- or insurance-related topic are welcome. Specific subject areas include, but are not limited to, finance, economics, risk management, insurance law or regulation, public policy, health care, international issues, and employee benefits.

Proposals from doctoral students are encouraged. The deadline for submission is February 16, 2007. This deadline will not be extended.

Proposals may be submitted to the ARIA Vice President and 2007 Program Chair:

Terri Vaughan
Drake University
College of Business and Public Administration
(515) 271-2830
Fax: (515) 271-4518
terri.vaughan@drake.edu

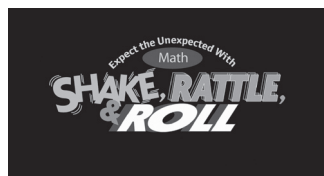
For full details see the complete program announcement at <http://www.casact.org/research/2007ARIACallforPapers.pdf>.

Update on the Actuarial Foundation

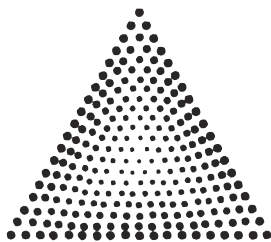
CAS Members Helping Consumers

By Debbie McCormac

Shake Up a Math Class Near You!



Sponsored by The Actuarial Foundation and developed



THE ACTUARIAL FOUNDATION

and distributed by Scholastic, *Shake, Rattle, & Roll* is designed to provide teachers and students with math literacy-based materials that meet national standards. This skill-building program provides lesson plans, activities and other teaching resources while incorporating and applying actuaries' natural mathematics expertise in real-world situations, namely disasters.

To play a part you can:

- Educate students about the impact of math upon the economy and our daily lives.
- Teach students about how events far away may have an impact on each of us in the future.
- Motivate students to recognize that math is a factor in the ability to navigate through life.
- Introduce the actuarial profession to teachers and students in an interesting and relevant manner.

Actuaries who would like to present the materials to a school in their area are welcome to download the program at: <http://www.actuarialfoundation.org/youth/Shake-Rattle-Roll.html>.

If you have any questions, please contact the Foundation at asa@actfnd.org or (847) 706-3535.

Be a Cranium Coach!

Most mathematically gifted high school students and two-year college students generally do not have any actuarial exposure until they are ready to graduate from college. How can we provide opportunities to this tremendous pool of potential actuaries?

The solution: Identify talented math students and find a vehicle to offer them challenging, yet accessible, actuarial projects to introduce them to the stimulating math involved in actuarial science.

The Actuarial Foundation has joined with Mu Alpha Theta and the National High School and Two-Year College Mathematics Honor Society, to implement Project Math Minds, a new actuarial

related project that will be designed for high school students to work on during the school year. Students will compete for college scholarship money provided by The Actuarial Foundation. Winners will present their results at the Mu Alpha Theta National Convention to other members of the Honor Society.


With engineers, scientists, and other math-based professions already represented at the Mu Alpha Theta Conventions; CAS Fellows, Associates, and candidates are invited to help develop an actuarial strand to this important math competition. While a background in education is beneficial, it is not required—only a strong interest in educating our youth about the opportunities and preliminary math skills of the actuarial profession is needed.

To find out more about Project Math Minds and Cranium Coach volunteer opportunities, visit the Foundation's Web Site at http://www.actuarialfoundation.org/math_minds.html.

New Consumer Booklet: Don't Run With Your Retirement Money!

WISER (The Women's Institute for a Secure Retirement) and The Actuarial Foundation have developed a new consumer guide, *Don't Run With Your Retirement Money: Understanding Your Resources and How Best to Use Them*. It helps the reader to figure out how much retirement money will

be needed, what financial resources will be available, and what happens as assets are drawn down. *Don't Run* is filled with practical insights on annuities, self-managed investing, dealing with lump sum distributions, and accounting for taxes.

To download a copy visit: <http://www.actuarialfoundation.org/consumer/wiserlumpsumFinal.pdf>. 





The Letter vs. the Spirit of the SOP on Reserving

Editor's Note: This article is part of a series written by members of the CAS Committee on Professionalism Education (COPE) and the Actuarial Board of Counseling and Discipline (ABCD). Its intent is to stimulate discussion among CAS members. Therefore, positions are sometimes stated in such a way as to provoke reactions and thoughtful responses on the part of the reader. Responses are welcomed. The opinions expressed by readers and authors are for discussion purposes only and should not be used to prejudge the disposition of any actual case or modify published professional standards as they may apply in real-life situations.

We have all read and been tested on the Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves (SOP on Reserving). The SOP on Reserving identifies and describes principles applicable to the evaluation and review of loss and loss adjustment expense reserves (note that an exposure draft to update this SOP is currently in circulation). The SOP on Reserving consists of three sections; definitions, principles, and considerations. In this Ethical Issues Forum we will probe various hypothetical situations related to the SOP on Reserving Considerations Section to determine where you personally would draw the line between the letter and the spirit of the SOP on Reserving.

For each of the hypothetical situations detailed below, please ask yourself the following four questions:

1. If I were the reserve actuary performing the analysis would I be comfortable with my work product?
2. If I were reviewing the work of actuary XYZ would I raise a concern with actuary XYZ and recommend that the analysis be modified?
3. Under what circumstances, if any, would my answers to the first two questions change?
4. If I did raise my concern to actuary XYZ (per question 2) and they ignored my recommendation would I appeal to another authority, such as a peer actuary, their supervisor, or the ABCD?

Hypothetical Situation 1 – Data Homogeneity

The SOP on Reserving Consideration on Homogeneity states: “Loss reserving accuracy often is improved by subdividing experience into groups exhibiting similar characteristics.” Consider a

situation where a workers compensation reserve analysis is performed with combined California and Oregon loss experience. During the past four years California exposures have gone from 80 percent of the total to 50 percent of the total.


Hypothetical Situation 2 – Development Patterns

The SOP on Reserving Consideration on Development Patterns states: “The development pattern on known claims should be carefully reviewed.” Consider a situation where a Workers Compensation reserve analysis is performed on a small book of business. Upon review the book’s development patterns appear to be relatively stable and credible. However, the reserving actuary has ignored the book’s development patterns and instead utilized an industry source that has more favorable patterns.

Hypothetical Situation 3 – Loss Reserving Methods

The SOP on Reserving Consideration on Loss Reserving Methods states: “Ordinarily the actuary will examine the indications of more than one method when estimating the loss and loss adjustment expense liability for a specific group of claims.” Consider a situation where a workers compensation reserve analysis is performed utilizing only a paid loss development (chain-ladder) method and a paid Bornhuetter-Ferguson method. Incurred losses are not utilized even though there are no data issues or concerns associated with them.

Hypothetical Situation 4 – All at Once

Consider a situation where a workers compensation reserve analysis is performed and all three of the previous situations occur within a single analysis. 

Employment and Scholarship Opportunities

COLUMBIA UNIVERSITY **Department of Statistics**

The Department of Statistics in conjunction with the School of Continuing Education at Columbia University invites applications for one or more lectureships in actuarial science. Ph.D. or Fellowship in major actuarial society is required. Responsibilities include teaching and exam-prep for the first four SOA and CAS exams. Applications should include a CV, statement of teaching philosophy and experience, and two or more letters of recommendation.

Screening of applications to begin immediately; search will remain open no less than 30 days from the date of posting. Please send application materials to:

Paul McNeil
303 Lewisohn Hall, MC 4110
Columbia University
120th Street and Broadway
New York, NY 10027

Columbia University is an Equal Opportunity/
Affirmative Action employer.
Minorities and women are encouraged to apply.

RIDER UNIVERSITY **Management Sciences, College of** **Business Administration**

The Department of Management Sciences of Rider University, Lawrenceville, New Jersey, has an open tenure-track faculty position for a candidate with a strong interest in actuarial science available September 1, 2007. The applicant must possess, by the effective date of the appointment, a Ph.D. in actuarial science, statistics, mathematics, or a closely related field.

Responsibilities include researching and teaching at the undergraduate and graduate levels. Salary and rank are commensurate with qualifications. The Management Sciences Department is responsible for the actuarial science major as well as core courses in mathematics and statistics required of all students in the College of Business. Further information on the actuarial science major can be found at <http://www.rider.edu/academic/cba/actuarial>. The College of Business at Rider University is accredited by AACSB.

All applicants must complete an online application at www.rider.edu/hr (select "Employment Opportunities" and then

"Create Application," and attach letter of interest and a CV. Undergraduate and graduate transcripts and three letters of recommendation are also required and should be sent separately to: Manager of Employment, 2083 Lawrenceville Road, Lawrenceville, NJ 08638-3099. Position #139110. Review of applicants will begin immediately and continue until the position is filled.

Rider University is an Equal Opportunity/Affirmative Action employer and does not discriminate on the basis of race, color, religion, national origin, age, sex, sexual orientation, handicap/disability, Vietnam-era/disabled veteran status, or any other non-job related criteria.

CAS Trust Scholarships Open For **2007–2008**

If you know a student interested in pursuing a career in actuarial science, let them know that the CAS is accepting applications for its scholarship program. The CAS Trust Scholarship program, funded by donations to the CAS Trust, awards up to three \$1,500 scholarships to deserving students annually. The intent of the scholarships is to further students' interest in the property/casualty actuarial profession and to encourage pursuit of the CAS designation. The CAS Trust Scholarship Subcommittee, chaired by Alice Underwood, chooses recipients.

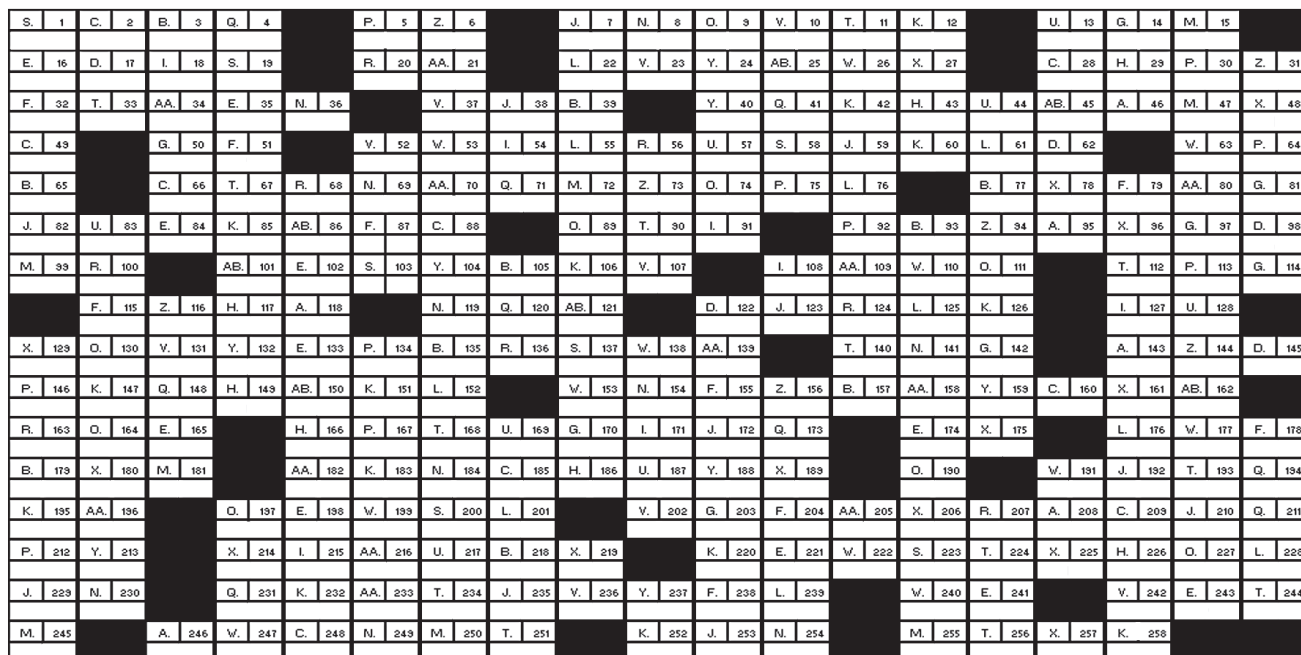
To be eligible, an applicant must be a permanent resident of the U.S. or Canada, or have a permanent resident visa, and admitted as a full-time student to a U.S. or Canadian educational institution. Applicants must also have demonstrated high scholastic achievement and strong interest in mathematics or a mathematics-related field. Preference will be given to applicants who have passed at least one actuarial exam.

Applications are available on the CAS Web Site. Recommendations, transcripts, actuarial exam results, work experience, and written essays will all be considered in selecting the award recipients. Completed applications for the upcoming year are due by May 1, 2007.

Established in 1979, the Casualty Actuarial Society Trust affords CAS members and others an income tax deduction for funds contributed and used for scientific, literary, or educational purposes.

Alan Putney Double-Croctic

Alan Putney has created another very fine double-croctic for the AR. (Clues can be found on page 13)



Win \$1 Billion, Probably (From August 2006 AR)

Mate in Three (From November 2006 AR)

David Uhland's solution arrived too late for him to be listed in the previous issue. He independently discovered both of the solutions given previously!

James Ely's solutions to Tom Strupbeck's chess puzzles are:

Problem 1 (white to mate in 3):

1. Nb1 ab(N)
2. e3+ Nd2
3. Qd2 mate

Problem 2 (black to mate in 3):


1. ... Be3+
2. de Nd1+
3. Bd1 or Rd1 cd(N) mate

In Memoriam

Nathan F. Jones (ACAS 1952)
September 10, 2006

Charles D. Kline (FCAS 1990)
October 22, 2006

Allie V. Resony (FCAS 1955)
October 12, 2006

Ralph L. "Casey" Abell, Taylor Barker, John Herder, Rob Kahn, David Oakden, Damon Raben, Jeff Subeck, Denny Tuan, David Uhland, Michael Wittmann, Melvyn Windham, and Christopher Yaure also sent solutions. 



Casualty Actuarial Society
4350 North Fairfax Drive, Suite 250
Arlington, Virginia 22203 USA
Phone: 703-276-3100, Fax: 703-276-3108
www.casact.org

