



MEET CCA MEMBER: DOROTHY ANDREWS

Title: Chief Behavioral Data Scientist

Employer: Actuarial & Analytics Consortium LLC

Location: North Carolina

Area of Practice: Predictive Analytics and Life

Actuarial Science



“Bringing Out the Detail in the Shadows”

Being an actuary often involves bringing to light information that might otherwise go unseen. Much like in photography, subtle shades of grey play an integral role in the impact of the final product. Nobody understands this quite like Chief Behavioral Data Scientist and acclaimed photographer Dorothy Andrews. For Dorothy, what matters most isn't what's readily apparent, but rather that which requires methodology to extract and define – it's not the shadows themselves but the detail *in* the shadows.

Similarly, predictive analytics – an increasingly important facet of the actuarial profession as well as a responsibility of Dorothy's in her current position – involves a similar frame of thought. It is only through techniques and processes that historical data, statistical algorithms, or machine learning can be utilized in a meaningful way. Listening to one instrument being played can be nice but listening to a symphony can be astonishing. Simply put, there is nothing simple or boring about the world we live in or where it's headed; and there is *certainly* nothing simple or boring about Dorothy Andrews.

Please take a moment to get to know one of our newer CCA Members: Dorothy Andrews!

Name: Dorothy L. Andrews, FCA, ASA, MAAA, CSPA / **Location:** Charlotte, North Carolina / **Employer:** Actuarial & Analytics Consortium LLC / **Title:** Chief Behavioral Data Scientist / **Area of Practice:** Predictive Analytics and Life Actuarial Science

How did you get in to the actuarial profession?

I learned of the actuarial profession while studying mathematical statistics at Boston University. I started taking actuarial exam classes through the Boston Actuaries Club and one night in the numerical analysis class I was the only one answering all the questions, having

studied it at the graduate level, and the instructor, a John Hancock actuary, recruited me to join the company and I did!!!

What is the strangest thing someone has told you they assumed about being an actuary or what it means to be an actuary?

The strangest thing I have ever been told was that actuaries just sat in backrooms of companies crunching numbers all day and were infrequently allowed to interact with customers and other non-actuaries. Well, luckily for me, my outgoing personality kept me out of the backroom and interfacing with non-actuaries in all departments and showcasing my sense of humor.

What is your favorite part about being a CCA member?

I am a new member, but I have had a number of people from the CCA reach out to me and welcome me into the organization. I am really looking forward to meeting other members at CCA and other actuarial events. I hope there is a mechanism in place to help members identify each other at SOA, CAS, and AAA events.

Is there something about you people would be surprised by if they knew it? If so, what is it?

I was a fine art black & white photographer and a master of Ansel Adam's The Zone System. My mastery of the zone system earned me an invitation to join the Argentum Photography group founded by Nick Johnson of the New England School of Photography. The zone system is a technique that improves the amount of detail in the shadows of a photograph without overexposing the non-shadows (or "highlights") of the film. My collection called "Classical Music" is based on the zone system and has been exhibited in libraries, museums, galleries, won entry into juried exhibitions, and a photography award. I modified Ansel's technique for developing film from one that varies the amount of time film sits in developer based on film exposure to get a desired effect to one that varies the dilution of the film developer based on exposing for the shadows in a scene. This technique allows for a slower processing of the film and brings out more detail in the shadows without overcooking the highlights in a photograph. Nick Johnson was so impressed with the performance of my technique that he wrote about it in one of his books.

Do you have a favorite book, newspaper, blog, or writer?

I recently read "Augmented: Life in the Smart Lane," by Brett King. This book is extremely well written, but more importantly, it gives an eye-opening account of how we are morphing as a society by becoming more connected through the medium of technology. While it does not discuss human social disconnectedness as an unintended consequence, the reader is exposed to some amazing existing technology and challenged to inspire new technologies to mediate the human experience.

Who was a professional mentor of yours and how did he or she impact your career?

Frank Irish, the former Corporate Actuary of John Hancock Mutual Life Insurance Company. Frank Irish always had a clear vision of who he worked for. When asked, he would always say, "the policyholder." His response has guided my ethical behavior as an actuary and data scientist. Hard working consumers give up a portion of their limited incomes to buy insurance products. They deserve respectful and responsible treatment of their investment. I

truly admired Frank Irish for his respectfulness of policyholders and thankful to have called him a mentor.

What is your greatest accomplishment to date – professional or otherwise?

By my definition, I have not yet achieved my greatest accomplishment. Everything I have done in my career has led to great learnings and given me new skills to prepare me to do something really great. I feel my work in media psychology, whole food, plant-based nutrition, and analytics is preparing me for a “greatest accomplishment,” one that will positively impact a great number of lives. Developing programs to influence better food choices in poor communities and helping to facilitate the availability of better food choices is my goal “greatest accomplishment.” I am working to align myself with others who have the same goals. It is the primary reason why I joined Actuaries for Sustainable Health. Actuaries understand the numbers and the costs of chronic diseases and are the perfect activists for promoting dietary changes for arresting and reversing chronic diseases.

Can you tell us about your favorite experience working with the CCA?

I am new to the CCA, but I expect to have an abundance of favorite experiences working with the organization.

Where did you go to school and what did you study?

I attended SUNY Albany for my undergraduate education in Mathematics and my first Master’s degree in Mathematics and Education, Boston University for my second Masters in Mathematical Statistics, and I am currently pursuing a PhD in Media Psychology at Fielding Graduate University.

How do you define success?

Positively impacting a great number of lives.

What advice do you have for future actuaries or actuaries just getting their careers started?

Find a great mentor, someone with a strong ethical and moral inner compass and one who is highly respected for their actuarial skills. The work of actuaries reaches consumers they will likely never meet in person. Our work impacts the financial resources of real people, especially the less affluent who may be stretched to make ends meet and buy insurance, compulsory or not. The actuarial profession is grounded in a strong code of conduct and professional standards. Always be the highest reflection of that foundation.

Data science and analytics is another important skill set for up and coming actuaries to sharpen and maintain. The way actuaries get their work done will continue to evolve with the evolution of personal data quantification and emerging technology. Younger actuaries are wise to integrate themselves with analytics professionals in fields other than insurance to stay abreast of novel applications of technologies. The industry is beginning to embrace InsurTech innovations en masse to update traditional, unresponsive insurance models to improve the customer experience. Younger generations are demanding personalized responsiveness to their needs for insurance and InsurTechs, with their fresh approaches, are welcomed insurance partners in improving the engagement.

What do you see as of the future of the profession?

The future of insurance is predictive and actuaries out of necessity will have to be extremely proficient in data analysis, analytics, and media psychology. Technology is limiting the need for human contact in transactions and that has consequences. The “warm and fuzzies” of human contact are being filtered through mediating technology and that is changing our culture of communication. Digital immigrants more likely than not abhor the change, while those born digital are responsible for the change, embrace it, and would never consider going back to the rotary dial telephone. I recently heard some question why we refer to mobile phones (a form of black mirror) as “phones,” since we spend very little time talking on them relative to other activities we use them for.

The actuarial profession is changing because of a new focus on big data and technology integration. Traditional underwriting is becoming accelerated because upcoming generations are demanding a style of engagement that is more mobile, personalized, and responsive than that of parenting generations. Actuaries will find that traditional data will be insufficient to underwrite in the new data and technology era to improve risk classification. Data science and analytics skills will be standard tools in the toolkit of future actuaries.

How do you define yourself as a Consulting Actuary (i.e. what does it mean to be a consultant)?

Three words: Service, Expertise, and Attentiveness. Clients demand all three all the time and managing those demands across a large body of clients is very challenging, but it is a challenge that keeps my adrenaline flowing and I love the energy of it all.

Do you have strong opinions about calculators?

Versus the abacus and the slide rule? I prefer calculators, although I don't usually carry one on a daily basis. Like millennials, I use my phone!

What is the most important thing you've learned in the last five years?

In just the last two years I have learned about the power of whole food, plant-based nutrition to reverse chronic diseases and improve health. I was moved to become certified in whole food, plant-based nutrition through The T. Colin Campbell Center for Nutrition Studies at Cornell University. I developed a website to promote whole food, plant-based nutrition and the elimination of animal protein (aka AniTein) from the Standard American Diet. My site is www.NoAniTein.com. The science supports the reversal of chronic diseases through the elimination of animal protein from our dietary consumption. I see a future where diet becomes an important rating variable for life and health insurance. More actuaries should get certified in whole food, plant-based nutrition and join Actuaries for Sustainable Health.

If you weren't an actuary, what else might you like to do for work?

If I had an opportunity to live my life over, I would like to be a professional tennis playing attorney and recording artist who does stand-up comedy on the weekends. There are so many great professions to choose from that I don't know how I could ever limit myself to just one.

What do you do in your free time?

I love playing tennis and I work hard at improving my skills on the violin. It is such a beautiful instrument. My favorite violinists are Joshua Bell, Regina Carter, Karen Briggs, and Black Violin.

What would be the title of your autobiography?

The Psychologist in the Actuary.

What is something about you that a lot of people don't know?

I braid my own hair. Most people are impressed, but I tell them not to look too closely, my technique is not perfect.

What does being a member of the CCA mean to you?

It means that I will be associated with a group of high caliber consulting actuaries willing to share their expertise and experiences. I am so looking forward to meeting all the members. I hope we can organize some meetup events at SOA, CAS, and AAA events.