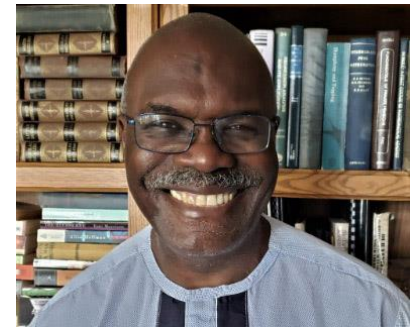


## UNDERGRADUATE MATH SEMINAR: Actuarial Science



John W. Robinson,  
President-Elect  
Society of Actuaries

The math seminar will be at a different time and location than usual

**DATE:** THURSDAY, May 5

**Time &** 4:30 – 7:00pm, with a catered dinner break

**Location:** Olin 115

The Mathematics Department, Economics Department, Center for Data Analytics, and Becker Career Center are delighted to jointly sponsor a presentation by John W Robinson, recently elected as President-Elect of the Society of Actuaries (SOA). The SOA is the world's largest actuarial professional organization, with over 32,000 members. In this two-part presentation, John will first explain what actuarial science is and what specific disciplines are involved. After a catered meal break, John will discuss his own career as an actuary, as well as the broader career opportunities that this discipline offers. Feel free to attend either or both parts, depending on interest. This session builds upon the recently approved new minor in Financial and Actuarial Mathematics, and will be organized as follows:

- 4:30 – 5:30pm Part I: What is Actuarial Science?
- 5:30 – 6:00pm Catered meal break
- 6:00 – 7:00pm Part II: Careers in Actuarial Science

John W Robinson (FAA MAAA FCA) is currently President and Chief Actuary of Robinson Associates, LLC. He has over thirty-five years' experience as a practicing actuary, including in state government. Originally from Jamaica, John received his B.S. in Mathematics from the University of the West Indies, and has M.S. degrees in Statistics from both the University of Delaware and Florida State University. John has served as President of the International Association of Black Actuaries, and on the SOA Board of Directors for several years. He will become the first Black President of the SOA when he assumes the office on October 22, 2022.

## Pieces from Theses – by Zakai Hu

*Kai wrote his senior thesis this past winter term, supervised by Professor Jue Wang*

My thesis topic was Building a Computational Model to Predict Survival Time for COVID-19 Patients with Heart Disease. While this was a continuation of my summer research, I used a new dataset and methods in my thesis. In my summer research, a survival analysis was used to build a model for COVID-19 patients; however, due to the limitation of data, it was hard to build a sophisticated model. Fortunately, I found a better dataset for my thesis. I then applied the Cox model, and the KM model to measure the hazard ratio and survival rate. At the same time, a logistic regression model was built to compare against the results from the Cox model. To test the model validation, ROC and AUC were applied for the Cox model and a confusion matrix was applied for the logistic model. To help visualize the result, a nomogram was used. Overall, the models produce a cumulative score for each individual, and the total score reflects the different results in the predicted survival rate.

It is a valuable experience to work on a thesis and apply my mathematical and statistical knowledge to the real world. Searching for appropriate data, analyzing data pedigree, cleaning the data, using the data to fit different computational models, and eventually evaluating the results. All those processes improved my research ability and earn valuable experiences.