**Project (4): An Introductory Note on the Modeling of Guaranteed Living Benefits**

*Project description:* The SOA published a series of reports on the utilization of various benefits for variable annuity products in the industry. Nevertheless, the reports lack sufficient details on the modeling of the benefits for scientific research purposes. We intend to provide a self-contained document on the modeling of each benefit with numerical examples.

*Faculty leader:* Runhuan Feng  
*Student participants (2):* Yu Xie; Xueyuan Wu

**Progress report:**

- The students are currently meeting with Runhuan Feng on bi-weekly basis to discuss the content with the SOA reports.  
- The students have already prepared presentations on the main findings of the SOA reports.

**Future plans and intended deliverables:**

- The students have been provided with an 80-page-long prospectus of Allianz Vision Variable Annuity.  
- They have been asked to translate all verbal descriptions of the benefits into mathematical formulation.  
- The students are expected to provide a report on the benefits with detailed numerical examples.

*Status:* Presentation on topic and research completed and posted. Additional work to be done as referenced above.