Title: Optimal reinsurance retentions under the joint survival probability and the joint Value-at-Risk for insurers and reinsures

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Abstract: In this talk, we discuss optimal reinsurance designs that are, in some sense, fair to both insurers and reinsurers. We determine optimal reinsurance retentions for stop-loss and quota-share reinsurances. These optimal retentions maximize the joint survival probability for insurers and reinsures or minimize the joint Value-at-Risk for insurers and reinsures, a multivariate risk measure proposed by Embrechts and Puccetti (2006). This talk is based on joint works with Ying Fang and Zhi Li.