



## **Tsogzolmaa SAIZMAA**

**Home Country:** Mongolia

**Degree:** PhD in Mathematics

**Expertise:** Probability Theory and Statistics

**Research Focus:** Mathematics

**Host University:** University of Bath, United Kingdom

**Fellowship Awarded:** 2016

Tsogzolmaa Saizmaa was born in Ulaanbaatar, the capital city of Mongolia. Her mother was a mathematics teacher and inspired a passion for solving puzzles and mathematical problems in her. At high school Tsogzolmaa won Gold and Bronze medals at Mongolian National Olympiads and also participated in international mathematical competitions.

Tsogzolmaa attended the School of Mathematics and Computer Science at the National University of Mongolia (NUM), Ulaanbaatar, where in 1998 she obtained an MSc in Mathematics graduating as one of the two highest performing students. She then worked as a part-time lecturer at NUM while studying towards an MSc in Mathematics, which she completed in 1999. Tsogzolmaa subsequently became a full-time lecturer and was planning to obtain a PhD; however, her two supervisors – the last active research professors in the field of probability and statistics at NUM, sadly both passed away before she could complete her work. She later joined her husband at Inje University, Gimhae City, South Korea; however, as this university did not offer a postgraduate mathematics program she instead worked towards a PhD in Computer Science, which she completed in 2010. Tsogzolmaa then returned to teaching mathematics at NUM, where she is keen to rebuild its expertise in probability and statistics.

The studies in the United Kingdom focus on stochastic processes – one of the main fields of probability theory – which describe a random trajectory through time according to certain mathematical rules. In recent years, a particular interest in this field has been stochastic processes whose trajectories undergo sudden discontinuities. These processes can be applied to modelling situations such as spikes in stock markets or data transfer demands on an internet server, where many small jobs are interlaced with big demands.

Following her studies Tsogzolmaa plans to return to her teaching, mentoring and research duties as an Associate Professor at NUM where she intends to refine and modernize its probability and statistics curriculum, and over time build a powerful research team.