

**Raffaello Seri**

UNIVERSITÀ DEGLI STUDI DELL'INSUBRIA

e-mail: [raffaello.seri@uninsubria.it](mailto:raffaello.seri@uninsubria.it)

## **Confidence sets for the Aumann mean of a random closed set**

The objective of the talk is to develop a set of reliable methods to build confidence sets for the Aumann mean of a random closed set (RACS) as estimated through the Minkowski empirical mean. In order to do so, we introduce a procedure to build a confidence set based on an asymptotic distributional result for the Hausdorff distance between the Minkowski empirical and the Aumann means; then, we introduce another procedure based on the support function.

The methods are based on the computation of the width of the RACS on a set of directions and are therefore suitable for computerized tomography, tactile sensing and laser-radar systems. Some Monte Carlo results show how the methods work in practice.

This contribution is joint work with Christine Choirat (Universidad de Navarra, Spain).