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**Title:**

### **A Bayesian Spatial Model for Small Area Estimation**

**Abstract:**

Sample surveys by definition are often carried out on a subset of a population in a subset of geographical areas that represents the whole geographical region. This leads to an absence of direct information in those areas that are not sampled, as well as information prone to significant sample error in those areas that are sampled. In addition, sometimes researchers are interested in information in a lower level spatial unit that is geographically different to the survey spatial unit. The primary focus of this paper is the development of a model-based Small Area Estimation (SAE) technique. We applied the proposed method to a total of 19 surveys conducted by the Australian National University (also known as the ANU Poll survey data, from years 2008 to 2015) in the postcode levels to understand the attitudes of respondents towards the political parties in Australian federal election at the statistical area level (SA2). This work is joint with Nicholas Biddle.