

---

**OKSANA CHKREBTII**, Simon Fraser University

*Transdimensional ABC for Inferring Introduction and Spread Rates of Invasive Species*

We develop a new transdimensional Monte Carlo sampler for approximate Bayesian inference when the likelihood consists of intractable variable-dimension integrals. For example, estimating individual parameters for complex, partially-observed germ grain models precludes the use of standard posterior sampling techniques because the likelihood typically cannot be evaluated. Approximate Bayesian Computation (ABC) methods provide an alternative, but can be slow when relying on inefficient conditional simulation. We show that a transdimensional approach overcomes this problem, and use it to estimate rates of introduction and spread for the invasive earthworms species *Dendrobaena octaedra* (Savigny) along roads in the boreal forest of northern Alberta.