

# Research Stay Plan and Timeline

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## 1 Research Stay Overview

**Host institution:** UBC

**Supervisors:** Prof. Elizabeth Wolkovich and PhD Victor Van de Meersch

**Goal:** First draft of a joint paper on Masting at Mt. Rainier National Park

**Duration:** January – March 2026

**General objective:**

The objectives of this research stay are to : 1) Developp a model to measure synchrony of seed production at the species and stand level at Mt. Rainier National Park and 2) Developp a manuscript or a first draft for publication.

## 2 Scientific Goals

**G1:** Implement a Bayesian model to quantify interspecific synchrony in seed production.

**G2:** Quantify intraspecific synchrony across sites.

**G3:** Evaluate temporal synchrony of total seed availability from a seed predator perspective.

**G4:** Validate models, perform sensitivity analyses, and prepare figures for publication.

## 3 Expected Output

- Work on a simple model to learn how to use STAN
- Define the biological limitations of each species, the possible variation between stand and seed trap design
- Bayesian model using multi-species
- Summary figures and tables
- Draft manuscript?

## 4 Potential Weekly Planning

Week	Main Activities
Week 1–2	Getting familiar with STAN and define the possible variations between the variables (species/stand/traps)
Week 3–4	Model specification and prior testing ? + Lab retreat (potentially working already on the manuscript; Method and overall sections) or something else?
Week 5–6	Model fitting and diagnostics ?
Week 7–8	Interpretation and visualization ?
Week 9–10	Writing and synthesis?
Week 11–After	Wrapping up and more writing?

- This is not certain as I have no idea how long each tasks would take me.

## 5 Timeline (Gantt Chart)

