**SRO1: Make a physically valid PFT tool**

**Task 1) Fix broadening and TC split**

1. **Implement PFT**
2. **Benchmark PFT**
3. **No broadening/ compressive failure**
4. **Well-posedness**

**Task 2) Incorporate weak interfaces**

1. **Upper and lower bounds**
2. **Gamma convergence**
3. **Benchmark against classical problems**

**Task 3) Implement the new PFT theory**

**SRO2: Evaluate the predictive potential of the new PFT**

**Task 1) Build PFT spicule model**

**i) measure architecture**

**ii) measure elastic and toughness properties of silica**

**iii) measure toughness of weak interfaces**

**Task 2) Characterize mechanical response of spicules**

**Task 3) Compare PFT to spicule measurements (F-d curves)**

**SRO3: Identify a new toughening mechanism**

**Task 1) Parametric study of WIs**

**Task 2) Develop analytical models to capture toughening mechanisms**