

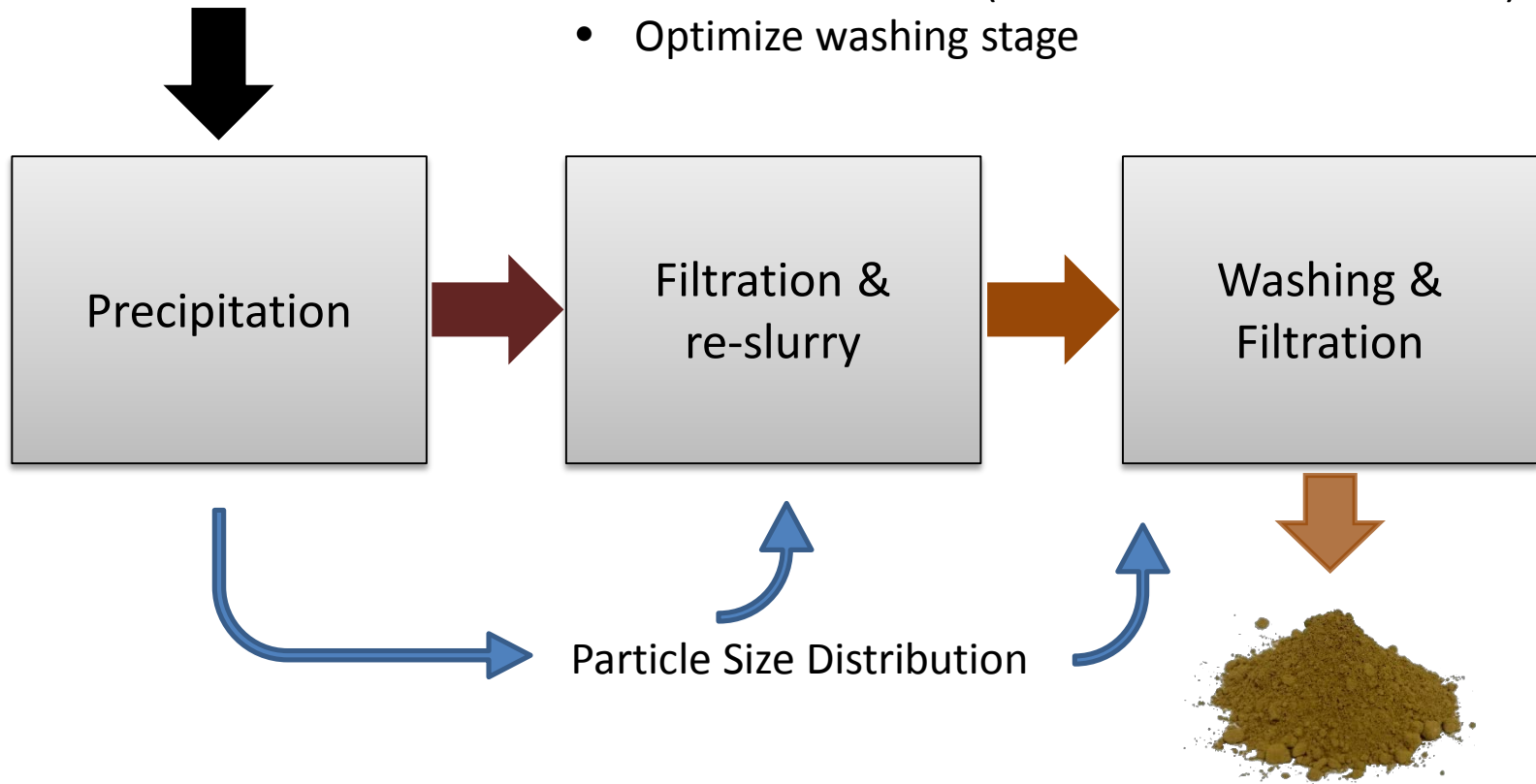
Solubility of kraft lignin in aqueous solutions

Tor Sewring
2018-06-18
WWSC-Workshop
Aronsborg

The LignoBoost™ Process

Challenges:

- Reduce filter-area (reduce filtration-resistance)
- Optimize washing stage



Precipitation Studies

Scientific Objectives:

Quantify influence:

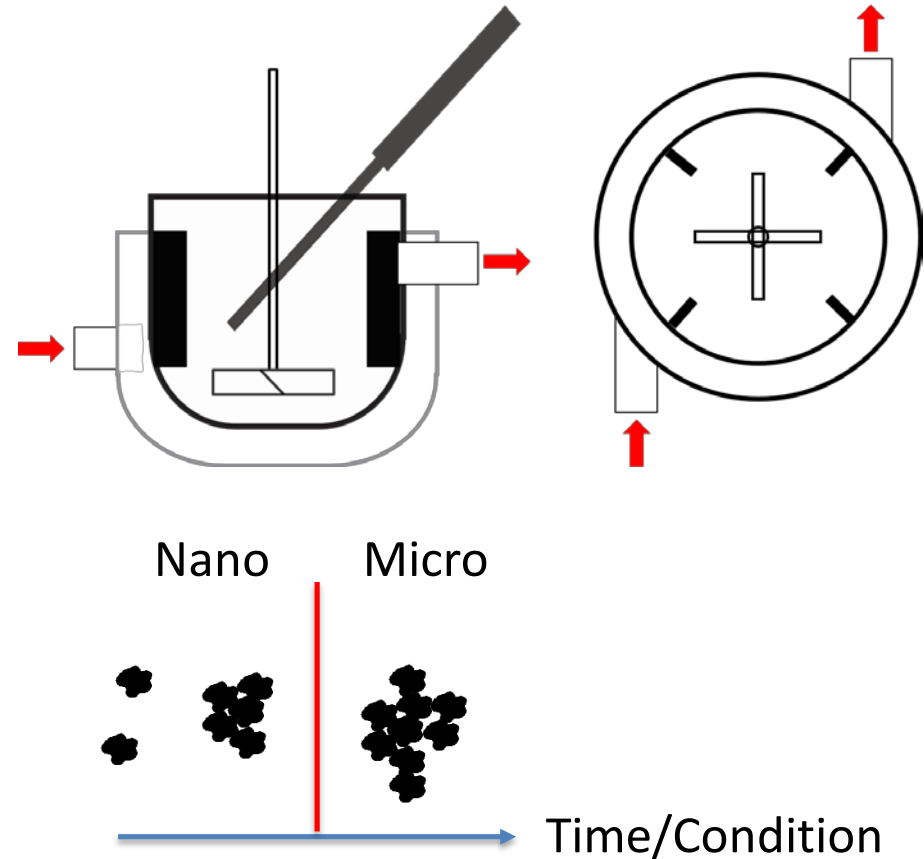
- pH
- Na⁺ concentration
- Temperature
- Xylan
- Initial seeding

Ongoing...

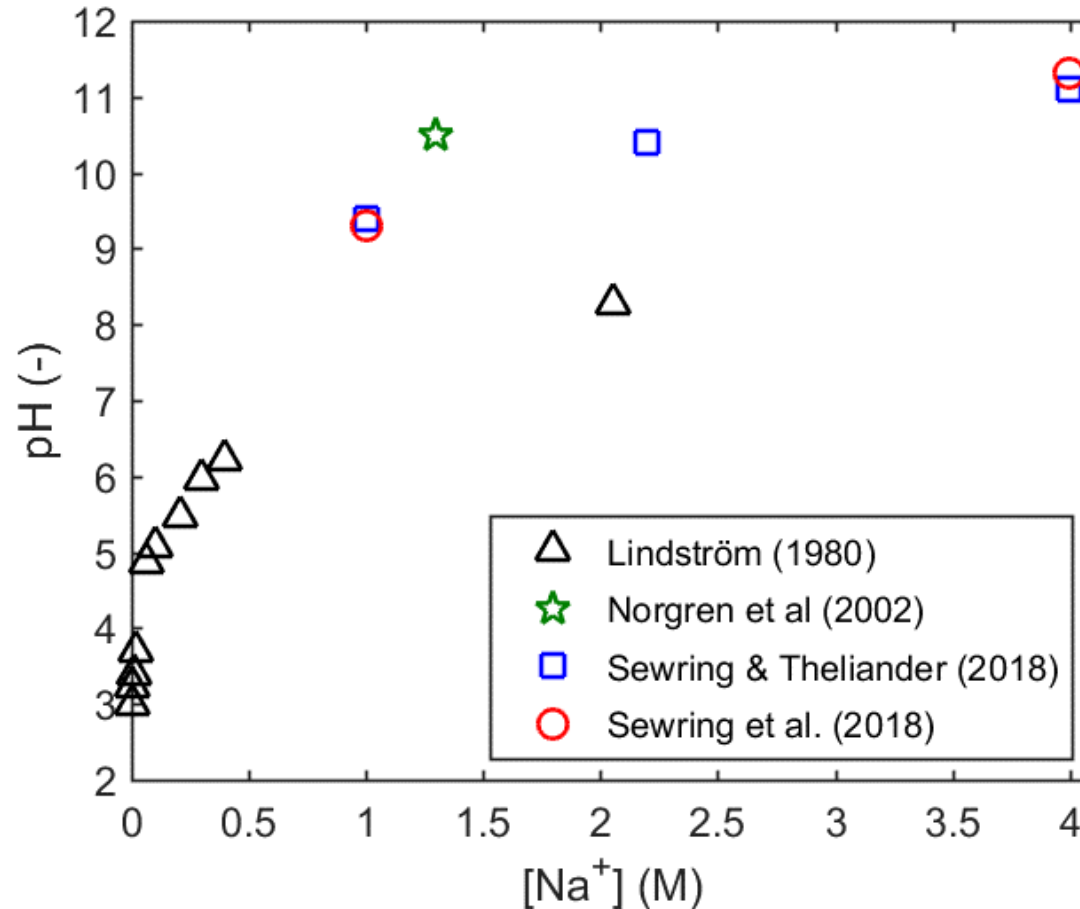
- Anion type

Mechanistic
Understanding

Approach:

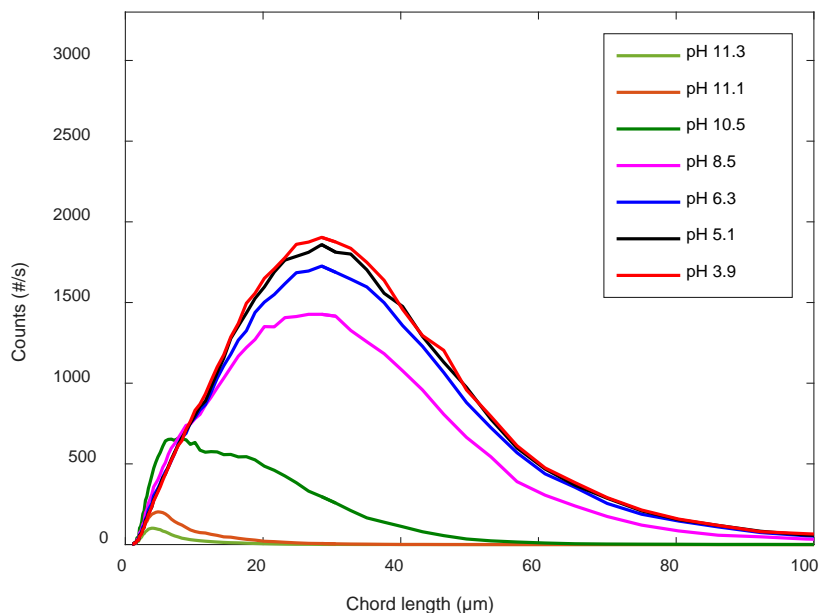


Example: Stable Particles $\geq 1 \mu\text{m}$

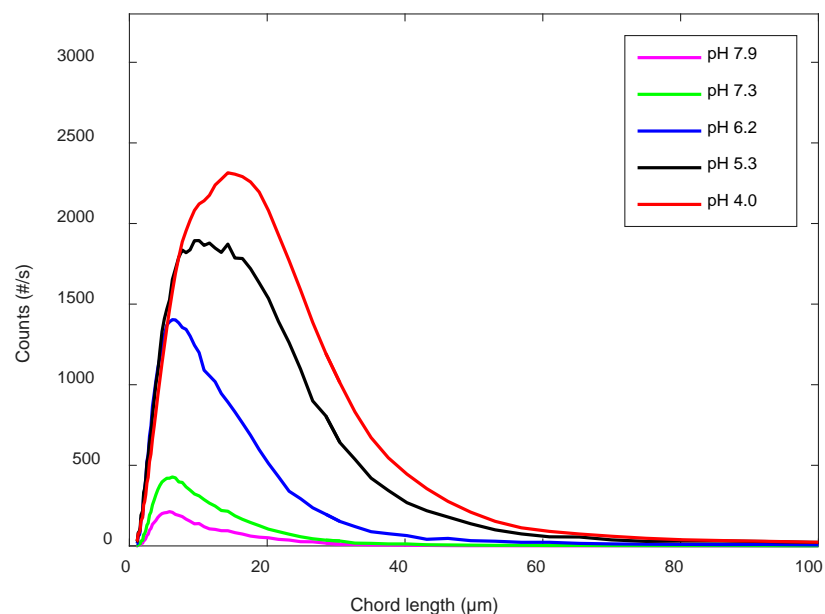


Example: Particle Size Distributions

4 M Na⁺

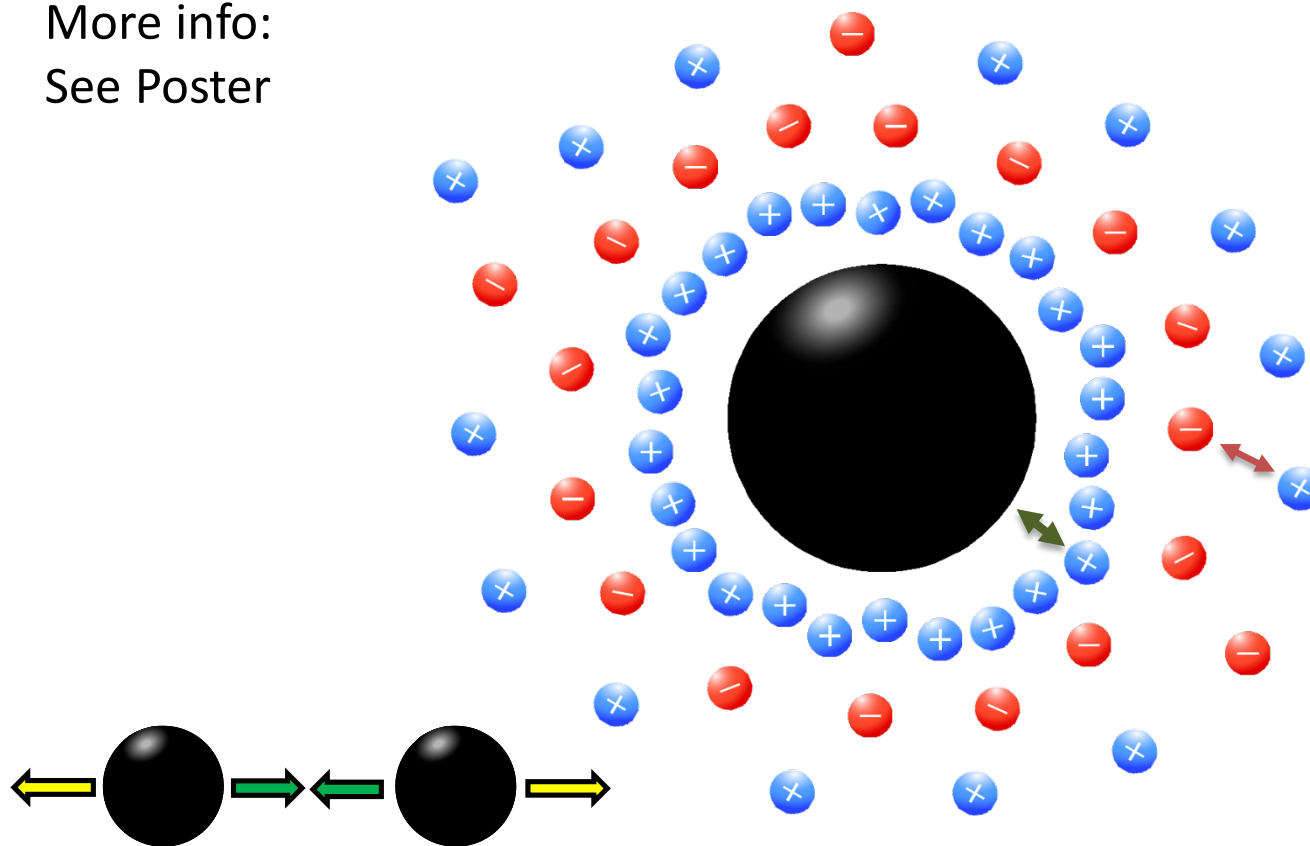


1 M Na⁺



Lignin-electrolyte Interactions

More info:
See Poster

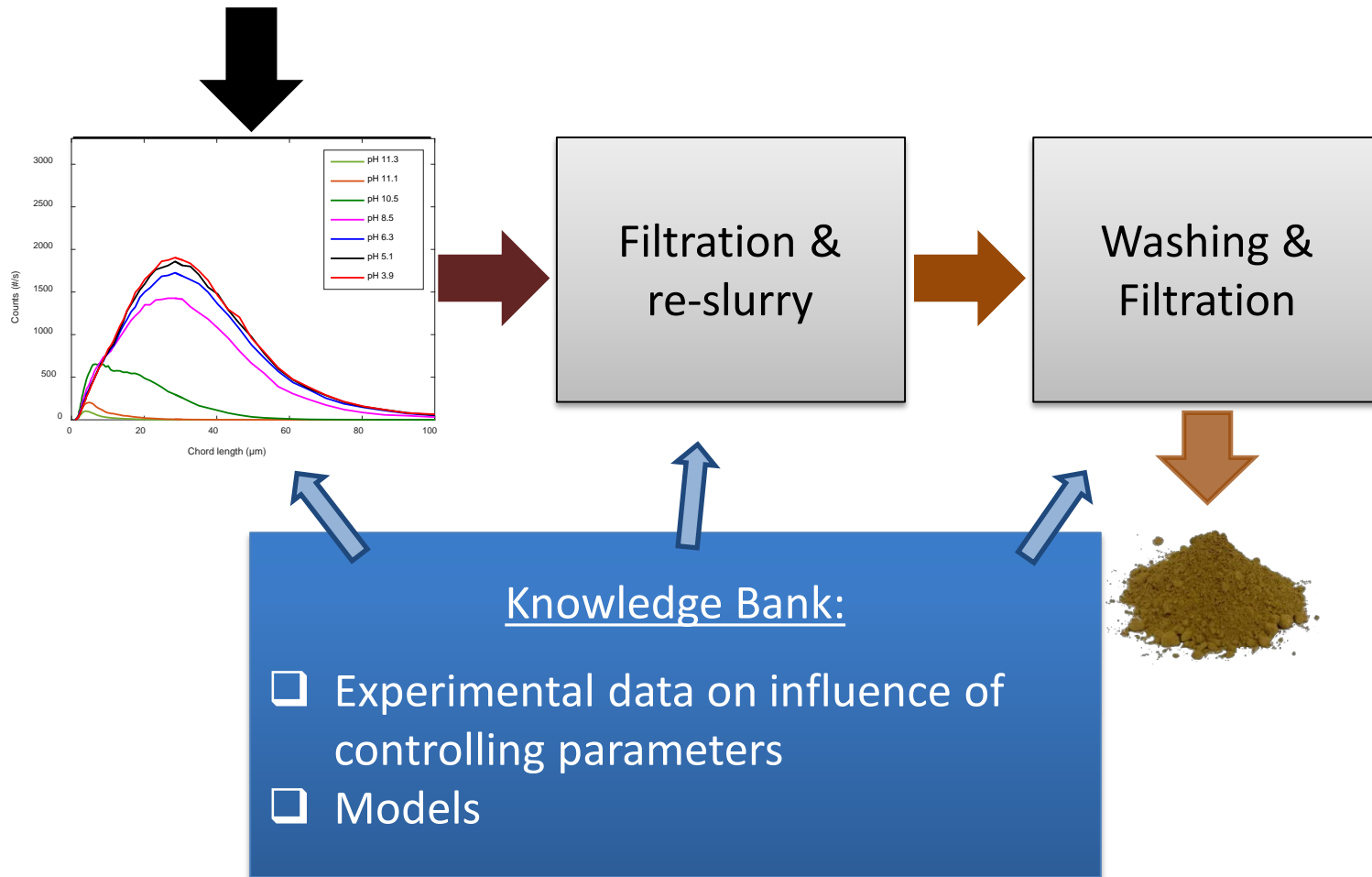


Ext. PB-Equation

Pitzer Method
activity coeff.
model
Ion-Ion
interactions

Ion-Surface
Potentials

The LignoBoost Process



Thank you for your attention!

Thanks to:

Hans Theliander

Tuve Mattsson

Julie Durruty

Lynn Schneider

Helen Schneider

Maria Sedin

Financial support:

**Knut & Alice Wallenberg
Foundation**

