Participating organisation

Finland

Åbo Akademi

Laboratoriet för Kemisk Träförädlingsteknik

Porthansgatan 3

FIN-20500 Åbo, Finland

Åbo Akademi University

Laboratory of Pulping Technology

Porthansgatan 3

FIN-20500 Turku, Finland

firstname.lastname@abo.fi

Organisation's details

Finland

ÅBO AKADEMI UNIVERSITY

Laboratory of Pulping Technology

Services/Products:	Education and research
Total number of employees:	9
Employees in E48 related areas:	1
Number of students:	30
Research focus:	➢Chemical Pulping ➢Mechanical Pulping ➢Low consistency refining ➢Viscose technology
Ownership structure:	Owned by the Finnish state

E48 representative's presentation (I)

Finland

Tom Lundin

Researcher
Åbo Akademi University
Laboratory of Pulping Technology
Porthansgatan 3
FIN-20500 Åbo, Finland
+358 2 215 3210
tlundin@abo.fi

Academic background:

M.Sc. (Chem. Eng) in 1998
Lic. (Tech) in 2002

Areas of expertise:

Mechanical fibre modification
Low consistency refining
Pulp characterisation

Function in COST E48:

Member of WG2

E48 representative's presentation (II)

Finland

ÅBO AKADEMI UNIVERSITY

Tom Lundin

Most relevant publications in the field of E48:

Lundin T., B. Lönnberg, K. Harju and P. Soini; ***Laboratory LC-refining of softwood bleached kraft pulp: effects of consistency and dispersion,*** 7th Pira International Refining Conference, 25-27 Mar 2003, Stockholm, Sweden

Lundin T. and B. Lönnberg; ***Effects of bar friction in LC-refining,*** 58th Appita Annual Conference 19-21 April 2004, Canberra, Australia

Lundin T.; ***LC-refining – Fundamentals 2. The fibre treatment***, PaPSaT Yearbook 2004

Lundin T.; ***Considerations on energy expenditure in LC-refining***, KCL Refining Seminar, 15th November 2004, KCL, Espoo, Finland

Lundin T. and B. Lönnberg; ***Energy balance in low consistency (LC) refining,*** 8th Pira International Refining Conference 1-3 March 2005, Barcelona, Spain

Own expectations in E48

Finland

ÅBO AKADEMI UNIVERSITY

- New, future project partners
- The limits of recycled fibres in stock preparation, specifically
  - Fibre modification by LC-refining
    - Re-generation of fibre properties
      - Flexibility
      - Swelling
      - Binding

      } dehornification
- Short Term Scientific Mission opportunities
  - Collaboration in the field of recycled fibre modification/preparation

Own contributions to E48

Finland

ÅBO AKADEMI UNIVERSITY

- Specific tools relevant for E48 objectives
  - Pulping technology equipment
    - MC-pulper 250 L
    - ProLab™ laboratory low consistency refining station (50 L per batch)
      - Softwood and hardwood fillings
    - Laboratory screens
      - Valmet TAP03 screen (0.06, 0.10, 0.15 and 1.50 mm slots)
      - Somerville screen (0.15 mm)
  - Pulp and paper characterisation equipment
    - Wet pulp properties (drainage, swelling, sedimentation)
    - FiberLab® Analyser (fibre dimensional analysis)
    - Paper testing equipment (physical and optical properties)

Brief description of own finished or ongoing research projects in the area

Finland

ÅBO AKADEMI UNIVERSITY

- Project: "Mechanisms in low-consistency refining of pulp fibres"
  - *Background: Licentiate thesis, guidance of M.Sc. and student works.*
  - *"To investigate the LC-refining of pulp fibres for improved understanding of fundamental fibre treatment mechanisms."*
  - *DSc (Tech.) thesis under work*
  - *Results (so far):*
    - *"We've learned that we actually don't know what's happening in LC-refining"*

Organisation of E48 events

Finland

ÅBO AKADEMI UNIVERSITY

My organisation has the personal and logistic facilities to organise major E48 events and would particularly be prepared to host

- [x] specific (separate) MC or WG meetings
- [ ] parallel or consecutive meetings of both MC and WGs
- [ ] a workshop (up to 50 participants)
- [ ] an international conference (more than 50 participants)

External contributions to E48

Finland

- I believe that the following external organisations or experts could make valuable contributions to E48 events:

Name	Organisation	Expertise
N.N.	Metso Paper	Recycling technology
N.N.	Megatrex Oy	Dispersion technology

Expectations and offers concerning STSMs

Finland

ÅBO AKADEMI UNIVERSITY

- My organisation is prepared to host young academics
- from foreign organisations in the frame of STSMs. We
- could offer collaboration in
  - Fibre modification/preparation (low consistency refining)
  - Pulp characterisation
  - Fibre dimensional analysis
- My organisation is interested in sending young academics to foreign research organisations in the frame of STSMs.
- We would particularly be interested in learning more about
  - Development of fillings for improved refining of recycled fibres