



Participating organisation

FRANCE



Centre Technique du Papier

B.P. 251

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Organisation's details

FRANCE



Centre Technique du Papier

Services/Products:

Research, Expertise

Total number of employees:

149

Employees in E48 related areas:

40

Number of students:

8

Research focus:

- **Recycled fibres**
- **Virgin pulps**
- **Environment**
- **Product Quality**
- **Sensor and simulation**

Ownership structure:

Private



E48 representative's presentation (I)



Alain COCHAUX, Doctor

Centre Technique du Papier

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Academic background:

- Paper engineer (Grenoble 1991)
- PhD in papermaking process engineering (Grenoble 1994)
- Associated Professor (1991-1995)
- Research engineer in CTP (since 1995)

Areas of expertise:

- Recycling of Packaging
- Recovered Paper Quality Control
- Fibre Properties

**Function in COST E48:
Member of WG1.**



E48 representative's presentation (II)

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Alain COCHAUX Most relevant publications in the field of E48:

Cochaux A; Ruel K; Monties D; Joseleau J-P; Rab A; Karolyi P; Polyanszky E

Effects of papermaking process and recycling onto fibre properties: investigation of their ultrastructural organisation - 2nd CTP-PTS Packaging paper and board recycling international symposium, Grenoble, France, 27-29 Nov. 2001, vol. 3, 13pp

Ruel K; Meyer V; Cochaux A; Doignie J-C; Poustis J; Joseleau J-P

Enzymatic treatments to restore recycled fibres properties - Cost workshop "Biotechnology in the pulp and paper industry" Cost E23 Action, Conference Proceedings, Grenoble, France, 28-29 Nov. 2002, session 3, 9pp

Cochaux A; Ruel K; Monties D; Joseleau J-P; Rab A; Karolyi P; Polyanszky E Identification of the degradation of recycled fibre properties, quality improvements by adequate treatments - 7th Recycling technology conference, Brussels, Belgium, 14-15 Feb. 2002, 12pp

Ruel K; Montiel M D; Cochaux A; Joseleau J-P

From virgin to recycled fibres: evolution of micromorphology - Research techniques for tomorrow's papermaking, COST Action E 11 Characterization methods for fibres and paper, Final workshop, Espoo, Finland, 4-5 Oct. 2001, pp 71-77

Cochaux A

Global strategy for recovered paper quality control - Developments in manufacture, technology and markets for corrugated board, Manchester, UK, 17-18 Sept. 2001, 5pp



Own expectations in E48

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- To secure recycling
- Eco-conception of finish products to facilitate recycling and treatment in recycling lines (less unusable materials, moisture...)
- Development of appropriate collection systems (industrial, household) for used paper and board product (see H. Großmann)
- Development of tools (/ sensors) and procedures to monitor raw materials either at the inlet of papermill (on delivery) or most relevant directly in sorting centres → raw materials in accordance to specification and EN 643
- To find relevant evidences that recycled fibres are weaker than virgin pulps and to determine in the recycling loop which step contribute to the higher degradation in order to propose recommendations to limit possible degradation and to restore recycled fibre properties



Own contributions to E48

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Finished or current projects in the area of E48:

- **FIBREVIVAL** – Upgrading recycled fibres by appropriate treatments during the stock preparation (European project)

Projects submitted or planned during the duration of E48

- **Nanofluoting** - Mechanical characteristics and cleanliness of light grammage papers and boards (multiclient project: 2004-2006)

Specific tools (equipment/software) relevant for E48 objectives

- EcoTarget project/ worpackage 2.1: development of sensors to monitor raw materials



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

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Project 1: FIBREVIVAL

- **Background:** Recycled fibres are damaged with multiple recycling loops and consequently the strength properties of papers and boards produced are lower than those manufactured with virgin fibres.
- **Objectives:** To study phenomena, experienced at recovered paper recycling, which cause strength decrease of new products (fundamental approach) and to develop various solutions to restore a part of the mechanical properties of the recycled fibres and to understand the mechanism of the restoration (applied research)
- **Means:** lab study → CTP pilot plant → industrial validation
- **Results (so far):** proposing optimal recycling line to upgrade recycled fibres properties with the use of fractionation and appropriate treatments on fractions



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

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Project 2: NANOFUOTING

- **Background:** European directive → to limit at source packaging and packaging wastes → reduction of weight and volume of packages
- **Objectives:** To provide papermakers with solutions for producing quality flute and linerboard of low grammages (pulp mechanical properties and cleanliness)
- **Means:** CTP pilot plant → industrial validation (implementation in parallel of CTP devices to recycling industrial lines) – Collaboration with sorting centre to improve quality of raw materials intended to be used for light grammage papers and boards – Collaboration with CERMAV and INRA
- **Results (so far):** proposing conventional and non-conventional technique to produce papers and boards of light grammage with mechanical properties similar to present grammage papers and boards



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

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Project 3: EcoTarget (workpackage 2.1)

- **Background:** *Quality of recycled fibres is often questionable and necessity to secure recycling*
- **Objectives:** *To develop sensors (and procedures) to control raw materials in order to replace sense based human control → to induce new behaviour regarding RP*
- **Means:** *Sensors: ratio newsprint/ magazines (CTP), category (1.04/1.05 CTP), moisture (Artec System), unusable materials (LLA), volatile compounds (Smart Nose) → development, industrial validation and commercialisation*
- **Results (so far):** *Tools (sensors) and procedures to monitor raw materials*



Organisation of E48 events

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My organisation has the personal and logistic facilities to organise major E48 events and would particularly be prepared to host (please tick box)



specific (seperate) 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

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

Name	Organisation	Expertise
K. Ruel	CERMAV	Fibre ultrastructure and morphology
N. Mangin	REVIPAP	Recycled paper users
N.N.
N.N.
N.N.
N.N.



Expectations and offers concerning STSMs ^{NCE}



My organisation is prepared to host young academics from foreign organisations in the frame of STSMs. We could offer collaboration in

- **Recycling**
- **Deinking**

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

- **Societal issues**
- **Economical aspects in recycling**
- **Multiplying forming**
- **New technology for recovered paper control**
- **Biotreatment for recycling reject**
- **Fiber characterisation**