



Participating organisation

FRANCE



Centre Technique du Papier

B.P. 251

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Francois.Julien-Saint-Amand@WebCTP .com

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Organisation's details

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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)



François JULIEN SAINT AMAND, Dr.

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Academic background:

- Paper engineer (Grenoble 1976)
- PhD in papermaking process engineering (Grenoble 1980)
- Research engineer in CTP (since 1980)
- Accreditation to supervise research (2001)

Areas of expertise:

- Recycling and deinking technology
- Particle separation techniques

Function in COST E48:

Coordinator of WG2
Member of the MC



E48 representative's presentation (II)

FRANCE



François JULIEN SAINT AMAND

Most relevant publications in the field of E48:

Julien Saint Amand, F., Perrin, B., Frach, D., Asendrych, D.

Visualisation of stickies extrusion through slots in pressure screens, PTS Stickies Seminar, Paper n°5, Dresden, April 5th-6th, 2005.

Julien Saint Amand, F., Perrin, B., Gooding, R., Huovinen, A.

Optimisation of screen plate design for the removal of stickies from deinking pulps, Revue ATIP, Vol. 58, n°4, Août/Septembre 2004.

Julien Saint Amand, F., Perrin, B.

Possibilities and limits of cleaners in removing PSA stickies, KRICT-KTAPPI RTM 2004, Daejon, Korea, 21 & 22 June 2004.

Julien Saint Amand, F., Le Ny, C.

DIP fractionation and fibre upgrading, INGEDE project 81 01 CTP, 12th INGEDE Symposium, proceedings, 30 January, 2003.

Julien Saint Amand, F.

Review: Stock preparation – Part 2: Particle separation processes, 12th Fundamental Research Symposium, proceedings: 81-191, Oxford, 17-21 September 2001.



Own expectations in E48

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- Identification of potential technological limits of paper recycling
- Assessment of the economical limits, regarding environmental regulation and competition of non-European wood resources
- Assessment of these limits to properly prioritise research needs in order to reinforce scientific cooperation in the paper industry, develop technology transfer from other industries and generate European projects accordingly
- Impact of recovery and sorting strategy, e.g. recovered paper sorting technology/costs development versus stock preparation
- Strategies to improve paper & board products' recyclability without sacrificing their competitiveness



Own contributions to E48

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Finished or current projects in the area of E48:

- **ScreenClean** – Optimisation of screening and cleaning technology to control deinking pulp cleanliness (European project)
- **Miniloss** – Reduction of pulp losses in deinking and recycling mills by secondary reject treatment

Projects just started / planned during the duration of E48

- **Ecotarget – SP2 – Recycled fiber supply**
 - WP2.2: Simplified and new deinking line structure
 - WP2.3: New technologies to reuse recycling rejects

Specific tools relevant for E48 objectives

- **Pilot equipment** : Complete recycling / deinking line
- **Software** : Dynamic simulation of recycling / deinking circuits



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

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Project 1: SCREENCLEAN (2002-2005)

- **Background:** *Despite considerable progress achieved in stock preparation technology stickies are still a major problem in terms of DIP quality and PM deposits.*
 - ☞ *European project, 6 partners: CTP (coordinator), AFT, Jackstädt / Avery Dennison, ICP, PTS and LEGI*
- **Objectives:** *To optimise the removal of PSA stickies at the key deinking process steps in order to improve deinked pulp cleanliness (with focus on macro-stickies)*
- **Means:** *lab, pilot and CFD simulation studies shared between the project partners:*
 - **ICP:** Pulping – *Optimisation of stickies properties to promote their subsequent removal*
 - **CTP, AFT and LEGI/ITM:** Screening – *Optimisation of stickies screening technology*
 - **CTP and PTS:** Cleaning – *Evaluation and optimisation of stickies removal*
 - **PTS and CTP:** Flotation – *Improvement and understanding stickies flotation*
 - **PTS:** Pressure filtration – *Evaluation of stickies removal from process waters*
- **Results (so far):** *Better understanding of the behaviour of PSA stickies at the different process steps and definition of the most effective techniques and optimised conditions for their removal. Final report under preparation. Several papers already published (c.f. first 3 relevant publications).*

COST E-48 1st WG meetings – Schiphol 30.06.2005



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

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Project 2: **MINILOSS** * (2004-2006)

- **Background:** Increased recycled pulp quality requirements in the fields of deinking (especially for SC and LWC papers) and packaging (light grammage papers) lead to more sophisticated deinking and recycling lines with higher solid losses
- **Objectives:** To reduce solid losses while without sacrificing pulp quality
- **Means:** Benchmarking of the deinking and recycling solid losses including detailed analyses of the composition of the rejects and the evaluation of contaminants and stickies balances in mills. Identification of priorities to recover valuable materials and investigation of adapted solutions
- **Results (so far):** Evaluation of solid reject quantities and compositions at the different process steps of a newsprint deinking mill and a packaging paper recycling mill:

Perrin, B., Julien Saint Amand, F.: "Solid reject analyses and stickies balances in a deinking mill and a packaging paper recycling mill", 6th KRICT-KTAPPI RTM 2005, Daejon, Korea, 18 & 19 April 2005.

* Project leader: *Bernard PERRIN*



Brief description of starting research projects in the area

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Project 3: ECOTARGET (end 2004-2008)

- **Background:** Integrated project (18 M€ budget, 26 partners) including 6 subprojects: Virgin fibre supply, Recycled fibre supply, Furnish solutions, Papermaking solutions, Process water and Integration.
- **Objectives:** To reduce environmental impact with 4 targets: -30% wood raw material, -30% energy, -20% water and -20% waste & emissions
- **Sub-Project 2: Recycled fibre supply – SP leader CTP (F. Julien Saint Amand)**
 - WP2.1: Recovered paper sorting and quality control – WP leader CTP (A. Cochaux)
- Partners and programme: see presentation by Alain Cochaux
 - WP2.2: Simplified and new deinking lines – WP leader CTP (B. Carré)
- Partners: CTP, PTS, Kadant-Lamort, Kolb, Viochartiki, Holmen, UPM. Program →
 - WP2.3: New technologies to reuse recycling rejects – WP leader KCPK (A. Hooimeijer)
- Partners: CTP and KCPK / Dutch paper mills Program →
- **Results (so far):** Some reports of the project will be issued as public documents.
The publication of other research results requires the agreement of the consortium



Brief description of starting research projects in the area



Project 3: ECOTARGET

➤ **Further information:** www.ecotarget.com

WP 2.2 Simplified and new deinking line structure

WP Leader: Bruno Carré, CTP, France

New concept for the deinking process will be proposed in order to simplify it with its resulting advantages: less losses, less energy consumption and better recycled pulp quality. The work will consist of rationalizing the functions of the deinking pulping stage considering its various tasks (to defiber, to keep a certain size of the contaminants, to achieve a good ink detachment) and the development of new & innovative unit operations (new mechanical & chemical means to improve the ink detachment), new screening system aiming at reducing the number of screening stages, new flotation cell with a much lower energy consumption, develop means to improve the ink flotation selectivity by the development of a specific sensor and implementing special treatments to remove surfactants, which have a detrimental effect on flotation selectivity and testing the recombination of existing sub processes & unit operations in agreement with the new pulping strategy in order to simplify the process and improve selectivity. The new processes and equipment will be tested on small, medium and large mill scale.

WP 2.3 New technologies to reuse recycling rejects

WP leader: Arie Hooijmeier, KCPK, Netherlands

In order to reduce solid rejects generated by the recycling of recovered papers, innovative solutions will be investigated: new technologies able to produce "side products" by the reuse coarse rejects (market survey, technical specifications, relation between recovered paper collection systems and composition of rejects) and new technology aiming at recycling coating pigments and fillers for use in surface treatment of high quality graphic papers (separation techniques, grinding techniques, chemical and enzyme treatments to improve key properties, basic studies on coating colour rheology for the evaluation of coating technologies).



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**