

# PITA Training & Conferences

Paper  
Industry  
Technical  
Association

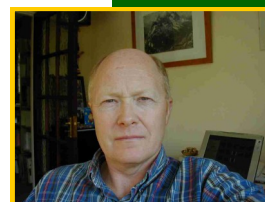
## Les Webbs's "Wet End Chemistry For Papermakers"

Essential Knowledge for Everyone involved in Paper Making

27<sup>th</sup> to 29<sup>th</sup> April 2010 at Blackburn Chemicals

**"An understanding of Wet End Chemistry is fundamental to the Modern Papermaking Process"**

Broken down into two modules, this detailed Training Course offers mill personnel an understanding of the workings of wet end chemistry and what practical measures are available to enhance productivity. Whether you are new to the wet end of the Paper Machine or just starting to appreciate the finer nuances of control, one (or



both) of these two modules is right for you!

The Introductory Course starts with a fundamental understanding of this immense subject, which the Intermediate Course then proceeds to flesh out the content with specific applications where Wet End Chemistry can improve Paper Machine Operations.

These two courses are backed up with comprehensive notes and Les's own detailed knowledge from many years of problem solving in the Paper Industry.



**"Improved stability and increased visibility of the chemistry will allow significantly increased cost-efficiency"**

### DAY 1 - Introduction

#### PAPER PRODUCTS:

definitions and statistics.

#### CHEMISTRY OF PAPERMAKING RAW MATERIALS:

virgin fibre and recycled pulps, mineral fillers and sizes, dry and wet strength agents, colorants and brighteners, retention and drainage aids, deposit and foam control systems, size press and coating chemicals, fresh water.

#### CHEMISTRY OF PAPERMAKING:

unit operations, wet end chemistry, dry end chemistry, water and wastewater chemistry, monitoring and control, criteria for selecting raw materials.

#### CHEMISTRY OF PAPER AND BOARD PRODUCTS:

key paper properties, wood-containing papers, wood-free printings and writings, packaging papers and boards, tissues and towels, coated papers and boards, other paper and board products, non-woven products.

### DAYS 2 & 3 - Intermediate

#### INTRODUCTORY BACKGROUND AND FUNDAMENTALS:

definition and scope of wet end chemistry, colloid chemistry (adsorption, flocculation and charge effects), wet end interactions, retention and drainage.

#### RAW MATERIALS: CHEMISTRY, EFFECTS AND INTERACTIONS:

water and its constituents, virgin and recycled pulps, mineral fillers and pigments, retention and drainage aids (aluminium compounds, polyacrylamides, polyethyleneimines, polyamines, PED, cationic starch, silica, etc), sizes (rosin, AKD and ASA), dry strength additives (starches, polyacrylamides, gums), wet strength additives (UF/MF resins, polyamide resins, etc), colorants (pigments and dyes) and fluorescent brightening agents.

#### CONTROL OF PROBLEMATIC SUBSTANCES:

pitch and stickies, slime and foam, interfering materials (anionic trash).

#### MEASUREMENT, MONITORING AND CONTROL TECHNIQUES:

sampling and laboratory simulators (dynamic drainage jar), off-line measurement techniques (pH, temperature, conductivity, aluminium, calcium, sulphate, COD, carbohydrate, starch, lignin, organic acids, zeta potential, streaming current/potential, colloid titration, consistency, ash, etc), on-line monitoring (consistency, charge, flocculation) and integrated on-line, monitoring and control systems and strategies.

#### PRACTICAL WET END CHEMISTRY OF PAPER/BOARD MACHINES:

wood-containing papers (newsprint, etc), wood-free fine papers and coated papers, packaging papers/boards and tissue/towel grades, papers based on recycled fibre.

**Only £300/person for the Introduction Course, £550/person for the Intermediate Course or book both for £800/person including full course notes, refreshments and six months complimentary membership of PITA**  
A 5% surcharge applies to non-PITA Members



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**For further details or to book your place on this course, contact Helen in the PITA Office**