

Michael A. MacGregor, PE

Position Objective Corporate Scientist, Corporate Technology Management, or Technical Director in paper surfaces, web consolidation processes, paper physics, or paper making diagnostics.

My Strengths Unique combination of scientific and pragmatic background, extensive worldwide professional network, facile with computers and many software programs, demonstrated innovative problem-solving capabilities, persistence in achieving goals, ability to sell ideas believed in, ability to foster desire and enthusiasm in team members.

My Interests Paper making and paper physics and paper structural problems on lab and industrial scale, surface-related problems, print and image quality, technology transfer, image analysis, application of geographical information systems (GIS) techniques in the paper industry.

Employment History **Owner**

Jan 2000 to present (Sept 2006) MacGregor Paper Consulting
Appleton, WI

Owner of private consulting business specializing in paper technology solutions for the paper and printing industries. Machine configuration evaluations, paper and printing surface defects, web consolidation processes, paper making diagnostics, paper property problems, wet pressing.

List of recent projects:

- "Blow wrinkles" in a tandem shoe press (USA)
- "Shrink wrinkles" in coated board (Europe)
- "Anti-Rewet" materials and strategies for press fabrics (USA)
- Optical mottle and shade mottle in coated fine paper (USA)
- "Lumpiness" in coated supered fine paper from the basesheet formation character (USA)
- Surface "texture", gloss mottle, and burnishing problems in coated matte paper (USA)
- Surface "texture" and gloss mottle in coated board (Canada)
- Fiber Orientation Streaking (FOS) in coated paper leading to Finger Ridging at reel (USA, Korea, Colombia S.A.)
- MD Microstriations in LWC and MWC Publication grades (USA, Europe)
- MD Striations in a number of Coated Board grades (USA)
- Cocklefields/Wrinklefields/Calender Cuts in LWC Publication grade (USA)
- Helped set up a Filtration Paper Specification program to achieve highest competitiveness (USA)
- Web handling and environmental considerations for web printing presses (South Africa)
- Causes of "Burnishing" of a Coated Food Board during rewinding (Korea, USA)
- Analyzed gloss variation/print quality for Coated Board (Korea) and LWC Publication (USA)
- Determined the source of texture and structure problems in Coated Food Board (USA)
- Solved shadow marking problems in a printing grade (USA)
- Performed Z-direction fiber orientation and XY-plane fiber orientation streaking analyses in Coated Board (USA)

- Performed fiber orientation mapping in MWC and LWC Publication grades (USA)
- Registration and pressroom runnability problems in a web-fed printing grade (Canada)
- Machine configuration assessment for recycled linerboard justifying installation of a shoe press (USA)
- Numerous adult training and education Short Courses (International)
- Several invited speaker presentations (International)
- Technical graphic arts commissions (Photoshop, PowerPoint, etc.)

Client List

- Gulf States NA
- Potlatch NA
- Sappi NA
- Fibermark NA
- StoraEnso NA and Europe
- Haindl Germany
- Mead NA
- Sovay NA
- Hansol Korea
- HydraTech S Afrika
- Propal Colombia SA
- MeadWestvaco NA
- Appleton Coated NA
- Tembec Canada
- Dow Int'l
- Albany International
- AstenJohnson
- McKinley Paper
- STFI/Packforsk

Sr. Scientist – STFI

Jan 1997 – Dec 1999

Swedish Pulp & Paper Research Institute (STFI)
Stockholm, Sweden

- Senior management member of the Impulse Technology (Impulse Drying) Program, studied the effect of Impulse Technology on paper structure, initiated an Intranet for Impulse Drying Team, scientist in the Paper-Print-Ink (PFT) research program, conducted research on paper surface structure and the applicability of geographical information systems (GIS) techniques to paper, mentored and supervised Master's and PhD students, consulted with Swedish paper industry.

Manager—Science & Technology – VoithSulzer

June 1978 – Dec 1996

VoithSulzer (formerly Voith, Inc.) PaperTechnology
Appleton, WI, USA

- Paper machine and paper making scientific trouble-shooting, related paper properties to paper machine design, customer guarantees, technical sales (technical representative on customer presentation teams), responsible for Company liaison with scientific community, conducted special research projects, print research.

1st Stora Professor, Printing Surfaces (Invited Applied Research Chair) – KTH

Nov 1988 – Jan 1990^{*}

The Royal Institute of Technology, Paper Technology Dept.,
Stockholm, Sweden

- Authored an invited major review paper for the FRC Cambridge UK Fundamental Research Symposium, developed instruments and methods to measure and characterize the paper surface for printing, conducted psychophysical research on submillimeter gloss variations in prints, consultant to the Swedish paper industry, taught PhD paper and process technology courses, assisted and advised Department Head, mentored graduate students.

Sr. Research Scientist (Appleton Mills), Propulsion Research Engineer (Boeing Aircraft), Student Engineer (UW-Madison, WI)

- Earlier résumés available for Jan 1964 to Nov 1988 period.

Past Undertakings

Rotogravure missing dots in SC paper, LWC coating and printing quality, high-speed SC paper machine optimization (production, quality), fiber orientation, finger ridging on supercalendered paper, fiber orientation streaking from headbox, cyclic smoothness variations from thermal banding in 2-roll calender, sheet aerodynamics (flutter, web handling), pressing simulations, CD-shrinkage roughening, MD microstriations from pressing and drying interaction, marking problems in paper and prints (wire, felt, groove, suction), hydraulic marking and crushing problems, pit trails in coatings, water-induced roughening of LWC basesheet, submillimeter gloss variation, orange peel gloss patterns, PM mechanical problems (headbolt failure, cover failure, shell failures), image analysis, paper surface modeling, 3D reconstruction of paper, Confocal and ATM microscopy, shoe press design, press drying, geographical information systems (GIS) applied to paper, Intranet design, web page design, high-end computer graphics.

Education

BSME 1965

University of Wisconsin

Madison, WI, USA

- Principal areas: Thermodynamics, jet propulsion, heat transfer

Professional Engineering Degree (PE) 1975

State of Wisconsin

Madison, WI, USA

^{*} 2-year leave of absence from Voith.

Continuing Education Courses

- University of Wisconsin—Madison, Massachusetts Institute of Technology—Cambridge, MA, Institute of Paper Chemistry—Appleton, WI, Tappi Short Courses.

Professional Memberships

Technical Association of the Pulp and Paper Industry (TAPPI); Pulp and Paper Technical Association of Canada (PAPTAC); International Association of Scientific Paper Makers (IASPM) past President.

Publications

18 refereed Journal and Book publications (5 additional in process), 30 formal technical and scientific papers and reports, 62 internal scientific papers and technical reports, 5 Conference Proceedings, 4 Course Textbooks.

Recent refereed publications (Complete listing available at www.mac-paper.com):

- MacGregor, M.A. and T.E. Conners, *MD microstriations in paper: a two-sided shrinkage phenomenon?* Tappi J., 1989. 72(4): p. 178-181.
- MacGregor, M.A. and P.-Å. Johansson, *Submillimeter gloss variations in coated paper; Part I, the gloss imaging equipment and analytical techniques.* Tappi Journal, 1990. 73(12): p. 161-168.
- MacGregor, M.A. and P.-Å. Johansson, *Submillimeter gloss variations in coated paper; Part 2, Studying "orange peel" gloss effects in a lightweight coated paper.* Tappi Journal, 1991. 74(1): p. 187-194.
- MacGregor, M.A., *High-intensity pressing and sheet-finish problems.* Tappi J., 1991. 74(11): p. 195-199.
- MacGregor, M.A., *The technical challenges of making better paper--preparing for the 21st century.* Tappi Journal, 1993. 76(6): p. 143-154.
- Antoine, C., Mangin, P. J., Béland, M-C, Chartier, K., MacGregor, M. A., Valade, J. L., *The Influence of Underlying Paper Surface Structure on Missing Dots in Gravure.* Advances in Printing Science and Technology, ed. J.A. Bristow. Vol. Vol. 23, 1997, Penntech. p. 401-414
- MacGregor, M.A., *Some effects of paper making on paper structure.* Paper Technology, 2001. 42(3): p. 30-44.

Other Accreditations

Tappi Leadership and Service Award—2003
Tappi FELLOW Award—2002
1st Stora Professor for Printing Surfaces at the Royal Institute of Technology, Stockholm, Sweden (invited research and teaching Chair)
Fundamental Research Symposium Invited Lecturer (Cambridge, UK 1989)
Industrial Research Needs TAPPI Workshop Invited Participant (NC State Univ 1996)
Tappi Pressing and Drying Short Course Lecturer since 1983
Tappi Water Removal Committee 30-yr Charter Member
Invited lectures and sabbaticals in various countries
Lecturer of Paper Technology at KTH, IPC, STFI, KCL, Paprican, UW-SP
Past 2-term President of the International Association of Scientific Paper Makers (IASPM) Scientific reviewer for Journal of Pulp and Paper Science (JPPS) and Tappi Journals

Webmaster for IASPM website (www.iaspm.org)
Webmaster for Tappi Water Removal Committee Intranet
(www.myplant.communityzero.com/tappiwrc)
Chairman of Tappi Knowledge Management Community
(www.myplant.communityzero.com/tappikmc)
Tappi Certificate of Appreciation 2004