

Annual Meeting of the Pulp and Paper Technical Association of Canada (PaperWeek Canada 2023)

Online
6-10 February 2023

ISBN: 978-1-7138-7485-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2023) by Pulp & Paper Technical Association of Canada
All rights reserved.

Printed with permission by Curran Associates, Inc. (2023)

For permission requests, please contact Pulp & Paper Technical Association of Canada
at the address below.

Pulp & Paper Technical Association of Canada
740 Notre Dame West
Suite 1070
Montreal QC H3C 3X6
Canada

Phone: (514) 392-0265

Fax: (514) 392-0369

www.paptac.ca

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Valorization of Lignocellulosic Forest Biomass Residues in Quebec to C-Rich Biooil Via the Integrated Hydropyrolysis and Hydroconversion (IH ²)Method	1
<i>A. Ganesan</i>	
Mercer's Pathway to Net Zero	26
<i>B. Adams</i>	
Electrotechnologies and Energy Efficiency for the Kraft Pulp and the Paper Industry	32
<i>B. Begin</i>	
Mitigation Pathways and Forest Carbon Accounting	41
<i>C. Smyth</i>	
BioKraft™.....	47
<i>E. Espejel</i>	
Future Kraft Mills.....	54
<i>F. Piroozmand</i>	
The LignoForce™ Lignin Recover System.....	58
<i>J. Foan</i>	
Lignin Modification and Depolymerization the Way to Biobased Materials Containing Aromatic Units	67
<i>J. Gracia-Vitoria, K. Vanbroekhoven, E. Feghali, R. Vendamme, K. Elst</i>	
Experience in Advancing Cellulose Circularity.....	79
<i>J. Willoughby</i>	
Advancing Lignin and Biomass Markets Through Standards Development.....	92
<i>L. Barber, J. Ziegler</i>	
The Future Kraft Bioproduct Mill - Now a Commercial Reality	105
<i>N. von Weymam</i>	
Forest Sector Opportunities on the Path to Net-Zero	118
<i>K. Lindsay</i>	
Kraft Mills of the Future: Canadian Perspective for Mills Transformation Towards Sustainability	125
<i>M. Benali</i>	
SMART CHIPS - Immersing Pulp & Paper into Digital Transformation.....	131
<i>M. de Oliveira, W. li, W. Hagman, J. Johnson, C. Gurney</i>	
Analysis of Lignins Using ³¹ P Benchtop NMR Spectroscopy: Quantitative Assessment of Substructures and Comparison to High-Field NMR.....	141
<i>M. Leclerc</i>	
Innovation at Suzano	152
<i>M. Rushton</i>	
Bark and Wood Residues as a Source of Renewable Reducing Agent in Metallurgy	158
<i>S. Langlois</i>	

Energy Demand and Carbon Footprint of Bleaching Chemicals.....	166
<i>A. Metais</i>	
Recent Advances in EDT's EnzOx Bleach Boosting Technology	178
<i>J. Tausche</i>	
Hexeneuronic Acids (HexA) and Impact on Pulp Bleaching	192
<i>R. Ikaheimo</i>	
A Look at the Process Energy Needs, Bioenergy, and GHG Emissions Related to Lignin Extraction.....	198
<i>J. Jeaidi, L. Savulescu, A. Rogerson, S. Bedard</i>	
Hydro-Québec Energy Efficiency Programs for the Pulp and Paper Industry.....	212
<i>B. Begin</i>	
Successful Implementation of Digital Twin Technology on Energy Systems	224
<i>B. Janvier</i>	
Integration of Carbon Capture in a Kraft Pulp Mill Operating Large-Scale Lignin Extraction.....	235
<i>H. Skoglund, E. Svensson, S. Harvey</i>	
Digital Decision Support Tools for Improved Control Systems and Energy Efficiency in P&P Mills.....	242
<i>H. Ghezzaz, M. El Koujok, A. Ragab, M. Amazouz</i>	
Lime Kiln Fuel Switching the Canadian Context, BioKraft™	256
<i>K. Woytiuk</i>	
Achieving the Best Temperature Control for Your Steam Turbine Bypass System.....	268
<i>M. Madeheim</i>	
Energy Management System in Paper Manufacturing	276
<i>F. Fournier, P. Bassett</i>	
An Overview of Some of the NRCan Programs.....	282
<i>S. Bedard</i>	
Industrial Energy Efficiency Program NB Power	289
<i>S. Devereaux</i>	
BC Hydro Energy Efficiency and Electrification Programs.....	294
<i>T. Berger</i>	
Ways to Reduce Water Usage in Your Facility and Meet ESG Commitments	303
<i>S. Birtch</i>	
Optimizing Dewatering Under Changing Sludge Characteristics	315
<i>K. Hnatuk, S. McKay</i>	
A Case Study on Creating Plant Wide Enthusiasm About Operational Excellence.....	327
<i>A. Quevillon, M. Carignan</i>	
Winder Upgrades and Modifications for Transitional and Packaging Grades.....	351
<i>B. Dib</i>	
The Benefits of Thermal Spray Covers for Papermakers	357
<i>D. Williams, K. Wilson</i>	

Virgin Vs Recycled Fibers; Thoughts for a Sustainable Future.....	369
<i>G. Lyengar</i>	
Technologies and Strategies for Eliminating Talc Used for Pitch Control in Virgin Pulp.....	382
<i>M. Karivelil, J. Thomas, M. Nelson</i>	
Brown Fiber Recycling System Operations and Centrifugal Cleaning	394
<i>M. Lopane</i>	
Buckman® 280 – a Novel Chemistry for Controlling Difficult Deposits in Pulp & Paper.....	411
<i>B. Holmes, M. Rizcallah</i>	
What is the Purpose of a Desuperheater?	425
<i>M. Soucy</i>	
A Technical Approach to Successful Starch Replacement.....	433
<i>M. Wallace</i>	
Aqua Layer Technology	442
<i>P. halme</i>	
Enhanced Forming with Sleeve Roll Technology	451
<i>P. Halme</i>	
Quick Inversion Polymers- a New Family of Fixatives and Particle Retention Boosters	459
<i>P. Jelinek</i>	
Novel Alternatives to Starch as Dry Strength Additives.....	467
<i>P. Rivard</i>	
Production of Translucent Films for Packaging Applications Using Cellulose Filaments	477
<i>R. Allem, F. Drolet, S. St-Amour</i>	
Recycled Fiber End Use Developments	484
<i>S. Kilpi</i>	
Eco-Responsible Paper Coating for Food Packaging	498
<i>S. Saeidlou, H. Li, M. Ton-That</i>	
Collection Handling Systems of NCG Non-Condensable Gases in the Modern Softwood Kraft Pulp Mills	507
<i>K. Hovikorpi, E. Vakkilainen, M. Pekkanen, T. Lintunen, P. Miikkulainen</i>	
The Future of Refining - Automation for Final Product Quality	519
<i>P. Dixon</i>	
FibreMorphology of Different Softwood Species and Its Impact on Kraft Pulping and Tissue Making Potential	529
<i>T. Radiotis, G. Sacciadis, X. Zou</i>	
What is Robbing You of a Good Day at Work.....	543
<i>T. Carr</i>	
Eucalyptus Fibers for Tissue Application - Eucalyptus Fiber Morphology, Properties and an Example of Application in the Brazilian Tissue Market.....	586
<i>M. Faez, L. Ferreira</i>	

Carbon Footprint of Market Pulps: How to Measure it and Pathways to Reducing it.....	600
<i>M. Fairbank</i>	
An Overview of Creped Tissue Manufacturing.....	607
<i>A. Phani</i>	
Tissue Making Challenges and Solutions	615
<i>T. Arra</i>	
Tissue and Towel Functional Chemistires	629
<i>L. Pawlowska</i>	
Forming Fabric Structures for Tissue Paper	637
<i>P. Brunet, K. Ward, K. Rising, B. Langlois, V. Roy, H. MacCormack, J. Goins</i>	
Our View of Converting	644
<i>P. Lazzareschi, G. Gambini</i>	
Creping Process Optimization.....	657
<i>S. Hickey</i>	
Non-Wood Pulps – Supply & Availability.....	674
<i>X. Zou</i>	

Author Index