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TAPPICon 2021/PaperCon 2020
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Coating research addresses new product demands in response to global pandemic

For all of us, the year 2020 has been one of significant challenge. Our communities, companies, institutions, organizations, and families have had to make many tough decisions and change our way of life as a result of the global pandemic. This was the case this past spring when TAPPI, like many other conference organizers, made the decision to cancel PaperCon 2020. As the Coating and Graphic Arts Division technical program committee chair, I knew firsthand how hard our committee (like many others in TAPPI) and our authors and presenters worked to get the program ready. No doubt there was disappointment for some, but we all recognize the importance of the decision, especially considering how things stand today.

The paper industry is feeling the effects on production of graphical papers from the global pandemic and ensuing economic slowdown. There have been several announced major mill closures in Europe and North America in recent months, and declining demand for graphical papers was likely accelerated by the prolonged effects of the pandemic. At the same time, opportunities in packaging are growing, brought about by the increase in direct-to-home shipping of all types of materials and products.

The need for protecting food items to reduce potential contamination, increase shelf life, and reduce waste has also surfaced as an opportunity for coated paper-based

substrates. At the same time, there is an ever-increasing focus on sustainable products, where cellulose-based materials bring a distinct advantage in terms of renewability. Many municipalities have adopted strict guidelines on single-use packaging, which again creates an opportunity for our industry. These opportunities will require new and novel materials and an innovative mindset to close performance gaps and property tradeoffs that exist today. No doubt, the area of packaging—both paper and paperboard-based products—is an area of high interest in all of these new opportunities.

Addressing challenges through collaboration

During these challenging and unprecedented times, it is even more critical for paper companies to accelerate development of new grades that are in demand in our global markets. It is essential for paper companies to seek out the appropriate capabilities and partners who can assist paper and paperboard mills in quickly developing products that are in demand.

Being the first to market brings financial opportunity if you are the leader, but all too often the resources required to do so within a single company are limited. The ability to simulate the application of novel coatings and new materials at laboratory and pilot scale uncovers the challenges of scaling-up technology before taking big risks on large machines where costs are significantly higher to run trials. Paper companies should seek out the academic institutions, consortiums, and strategic supplier partners that can provide this type of support rapidly increase the speed to develop mill and market ready product solutions.

TAPPI Journal coating issue tradition prevails

Although in our personal lives, many traditions have been temporarily set aside due to the pandemic, the Coating

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and Graphic Arts Division's dedicated *TAPPI Journal* editorial team (Steven Ottone, Randy Branston, and Jim Niemiec) decided to continue the longstanding tradition of selecting a subset of the best papers from the PaperCon program and then encouraging the authors to present them to the industry through publication in a special issue.

In this issue of the *TAPPI Journal*, we are pleased to highlight five excellent papers as selections from the previously planned Coating and Graphic Arts PaperCon 2020 program. These papers outline opportunities or provide new insights to consider for new grade development in the area of products for packaging applications.

For this special coating issue, the paper authored by Lyons and Reed provides background on the proper selection of kaolin pigments to improve barrier coating performance. The two papers by Glor et al. and Einsla et al. highlight work that can be used in understanding the effect of pigment particle packing on coating performance, with a focus on paperboard coating opacity contribution and cohesive strength through the use of

hollow sphere plastic pigments. The paper submitted by Toivakka et al. focuses on curtain coating flow modeling of nanocellulosic materials with challenging rheological characteristics, both areas that are hot topics in the industry. Finally, the paper by Ventresca and Welsch illustrates the unique combinations of barrier chemistries that can enable multifunctional barrier performance through the high utility of multilayer curtain coating technology, thus enabling paper-based materials to compete against plastic-based films. We hope you enjoy these high-quality submissions!

As we prepare and look forward to TAPPICon 2021 in Atlanta, may you, your families, and your colleagues stay safe and healthy! **TJ**

Welsch is global innovation leader for the Paper, Board, and Textile businesses at Trinseo LLC, Midland, MI, USA and a 26-year member of TAPPI.

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