



Students build data-driven booth for PackExpo International

Clemson University's Packaging Science (PKSC) department and the Sonoco Institute are partnering to bring a unique data-driven experience to PackExpo International this year. PKSC has dedicated a [Creative Inquiry](#) (CI) class to the careful planning of this year's booth, which will showcase three unique experiences centered around eye-tracking, facial coding and virtual reality for data-driven package design.

"This whole process has been an amazing learning experience, from designing everything, to preparing for things to go wrong, to actually building it in the lab," said Ray Cummings, student leader of the CI project. "At this point, I think we've used nearly every piece of equipment in the Institute's labs to prepare."

Sponsored by [Festo](#), this year's booth will be constructed using puzzle-piece-like wood milled in the Institute's prototyping lab. The pieces will fit together into a unique curved shape and will be outfitted with graphics designed by the students. The team has decided to look at how minimalist packaging affects consumer preference for this year's live eye-tracking study.

"I'm looking forward to seeing everyone's reactions to our setup at the expo!" Cummings continued.

[PackExpo](#) takes place October 14-17 in Chicago, IL. Find Clemson University at PackExpo booth N-4543 and follow the Institute on [Twitter](#) for live updates during the show!



Grad student assists with printed electronics work in Finland

Over the summer, graduate student and Sonoco Institute pressroom assistant, Cat Bromels, travelled to Tampere, Finland for a unique work experience.

Q: Cat, tell us about your Clemson connections.

A: I am a second-year graduate student in Graphic Communications (GC) focusing on printed electronics and flexographic printing. I am a Graduate Assistant for both the Sonoco Institute and GC department. I plan to graduate in the next two years.

Q: Tell us all about your summer work experience! How did you learn about this opportunity?

A: Dr. Don Lupo is a professor at Tampere University of Technology (TUT) in Finland, overseeing the Laboratory of Future Electronics. Additionally, he is an adjunct professor in Clemson's Material Science and Engineering department. Because of his connections with Clemson, Dr. Lupo contacted Dr. Tonkin and Dr. O'Hara in GC last fall looking for graduate or doctoral students with print backgrounds interested in printed electronics. Lupo's current team at TUT does not include anyone specifically with a print background. Their team is working on printing super-capacitors using carbon screen printing inks on thermoplastic polyurethane (TPU) – but they were experiencing ink adhesion issues. I worked with Dr. Lupo and Anna Railanmaa, a doctoral candidate who has been the primary researcher on the TPU super-capacitors. I spent the majority of my time testing various additives, substrate surface modification techniques, curing techniques, barriers and backing materials with two potential substrates. The hope was that, with the testing I did to resolve the ink adhesion issues, the team could move forward with more quickly resolving construction and dielectric properties down the line.

Q: What was your favorite part of the experience? What was your greatest challenge?

A: This was the first experience I've had with pure research, in the sense that I was not enrolled in any classes over the summer and was focused solely on solving one problem for two straight months. This was also the first time I've worked with a team that had such diverse backgrounds. Anna was the main researcher I worked with and she has a Material Science background, but the other team members were chemists, physicists, electrical engineers and chemical engineers.

Q: Why Finland? Did you do any exploring while you were there?

A: Finland is where the research was happening, so that was the place to be! I explored Helsinki, went to a castle in Savonlinna and spent 24 hours in St. Petersburg. I went in a 100°C sauna and then jumped in a 17°C lake, and ate tiny fried fish whole (heads, fins and all) that are served and eaten like french fries. They were so good! I would move to Finland in a heartbeat. There are walking/biking paths everywhere. Combined with the public transit system, I was able to get around the whole country easily without a car. All of that, combined with the eco-consciousness, universal healthcare and worker-friendly atmosphere – Finland is pretty much directly up my ally.

Q: What are you thinking of pursuing after graduation?

A: I'm still fairly up-in-the-air as far as post-graduation plans, though I will be considering the opportunity to pursue a doctorate at TUT if that opportunity is still available. I am hoping this experience will eventually grow into my thesis work.

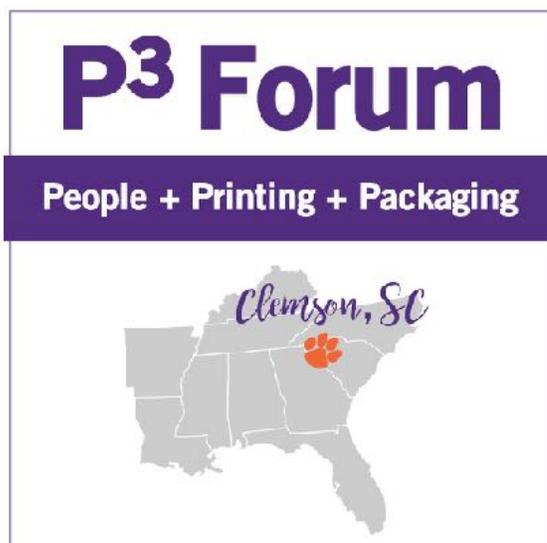


TUT campus in Finland



Photos by Cat Bromels

Coming soon: P3 Forum for packaging graphics alumni



Are you a Clemson alumnus working in packaging graphics or another related field? Then you're not going to want to miss the second annual [P3 Forum](#) (People + Printing + Packaging) on October 22-23 at Clemson University!

This year's event is centered around 'Change.' Change breeds opportunity. Opportunity for business to grow in new markets, for brands to engage new consumers, for sustainable technologies to change our environment and for employees to solve new challenging problems. Research validates that the best leaders are ones that can strategically manage change. Come join fellow Clemson print and packaging leaders to discuss trends, strategies and opportunities that will ensure you are prepared to stare down change with an 'eye of the tiger.'

A social networking hour will take place on Monday, October 22 from 5:15 – 6:45 pm at Godfrey Hall, hosted by the 2018-19 senior graduating class. A speaker lineup will begin at 8:30 am on Tuesday, October 23 at the Sonoco Institute of Packaging Design and Graphics.

[Click here](#) to learn more or register for this event.

TECH CORNER

The Sonoco Institute has recently upgraded all Esko software to the latest, version 18. This includes Automation Engine, Imaging Engine, and all of the workstation software such as Deskpack, Studio, Packedge, and ArtPro+. We strive to provide our students access to the latest technology as they prepare to enter the workforce.

Upcoming Industry Training Courses

NOVEMBER 7-8

[Corrugated Packaging Seminar](#)

Get a comprehensive, hands-on look at the corrugated packaging approach to design, printing, converting and end-use solutions.

NOVEMBER 13-15

[Process Color Management Seminar](#)

Learn about the workflow of process color printing for flexography, from creative design to press quality process control.

DECEMBER 5-6

[Flexo Foundations Seminar](#)

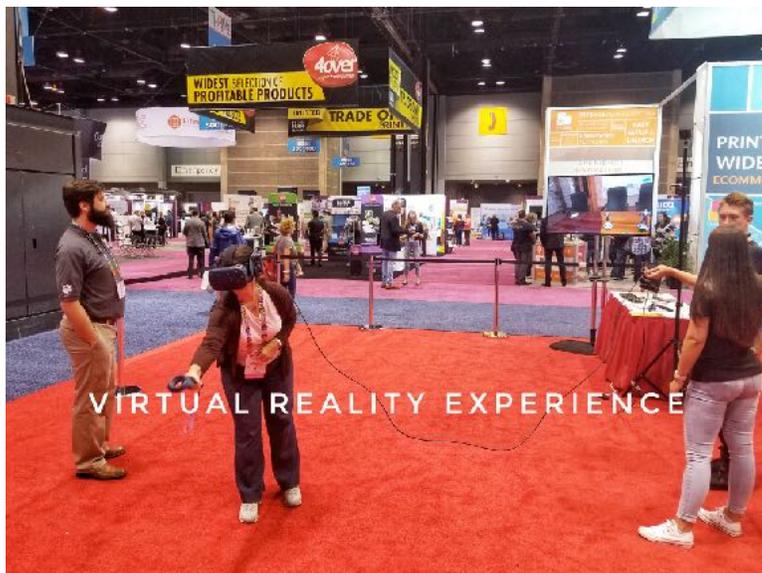
This two-day seminar is designed as an intro to flexography, suitable for anyone in the flexo industry including sales, marketing, etc.

JANUARY 22-25

[Intro to Flexo Workshop](#)

This class is geared toward individuals in need of a fundamental knowledge of the flexographic printing process.

PRINT 18 attendees experience unique virtual pressroom



If you attended [the PRINT event](#) in Chicago recently, you might have noticed the *Red Hot Opportunities* area designated by its bright red carpet, which housed our virtual reality experience.

For those who did not get the chance to put on the headset and immerse themselves in the virtual press room - imagine being transported to a world where the typical rules of press operation do not apply. Imagine walking up to a running press and removing the sides to see its inner workings. Imagine pressing buttons and pulling levers without any real-world repercussions. This is the world that this year's PRINT attendees experienced!

Inside the virtual press room, a narrator talks you through each stage of the experience. The walk-through culminates at a running press and the user is instructed to push a big red button that causes the sides of the press to fly upward, allowing them to see the moving pieces inside.



The project was coordinated with partners at PRINT 18, as well as Konica Minolta and Koenig & Bauer, whose presses were showcased in the experience. [A Q&A](#) between the PRINT 18 Team, and [Nate Newsome](#) and [Bobby Congdon](#) from the Institute, details more about the experience itself, how it was coordinated, and a glimpse at the future of VR/AR.

The Institute continues to seek out partners who are interested in VR for press training, product proofing and visualization, package research studies - and other unexplored uses for VR in printing and packaging. [Click here](#) to learn more about the Institute's current capabilities.

PRINT 18 was also attended by Clemson's Graphic Communications department. [Click here](#) to read more about the many ways Clemson showed up at PRINT 18 this year.

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