# 2019 HPC Fall Meeting

**Friday, November 15, 2019**  
Montesi Room, Buckman Hall, Christian Brothers University  
650 East Parkway South, Memphis, TN 38104

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<th>Time</th>
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<td>8:30 a.m. – 9:00 a.m.</td>
<td>Check-in/Continental Breakfast</td>
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| 9:00 a.m. – 9:15 a.m. | **Welcome**  
*Siripong Malasri*, Healthcare Packaging Consortium Director, CBU |
| 9:15 am – 10:30 am  | **The State of Logistics – 2019**  
*Clifford F. Lynch*, Supply Chain Executive in Residence, EpiCenter |
| 10:30 a.m. – 10:45 p.m. | Coffee Break                                                        |
| 10:45 a.m. – 12:00 noon | **Supply Chain Analytics: Past, Present and Future**  
*Ravi Poluri*, Master Planner, Containerboard, International Paper |
| 12:00 noon – 1:30 p.m. | Lunch                                                                |
| 1:30 p.m. – 2:45 p.m. | **CBU Packaging Program Updates**  
*S. Malasri*  
**Effect of Slenderness to Corrugated Fiberboard and Boxes**  
*S. Malasri, A. Brown, C. Gordy, B. Knighton, A. Moses, K. Nicholson, and Z. Tabor*  
**Packaging Improvement for Thistle & Bee**  
*S. Malasri, A. Brown, C. Gordy, B. Knighton, and Z. Tabor*  
**Box Compression Strength Enhancement**  
*S. Malasri, D. Duckworth, A. Moses, K. Snow, J. Housewirth, G. Johns, and J. Davenport*  
Packaging Department, CBU |
| 2:45 p.m. – 3:45 p.m. | **Optional CBU ISTA Certified Packaging Lab Tour**                    |

Campus Map: [http://www.cbu.edu/assets/2091/cbumap2017.pdf](http://www.cbu.edu/assets/2091/cbumap2017.pdf)

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Active Members

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## Registered Participants

1. Aflaki, James  
   Christian Brothers University
2. Alhajri, Hamoud  
   Christian Brothers University
3. Baker, Chad  
   Christian Brothers University
4. Berisso, Kevin  
   University of Memphis
5. Cloud, Eli  
   Thistle & Bee
6. Deutsch, Matthew  
   Christian Brothers University
7. Edwards, Evan  
   FedEx
8. Fantaziu, Victor  
   Christian Brothers University
9. Gadomski, Dick  
   Christian Brothers University
10. Gilman, Jay  
    FedEx
11. Gordy, Carl  
    Christian Brothers University
12. Johns, Georgina  
    Smith & Nephew
13. Johnson, Matthew  
    Autozone
14. Jordan, Braonna  
    Christian Brothers University
15. Kimble, Erin  
    International Paper
16. Kneipp, Wayne  
    FedEx
17. Lynch, Cliff  
    Epicenter
18. Malasri, Pong  
    Christian Brothers University
19. Mcabee, Leslie  
    Christian Brothers University
20. Melo Escobedo, Jean  
    Christian Brothers University
21. Moritz, Brad  
    Thaddeus Medical Systems
22. Moses, Alex  
    Christian Brothers University
23. Nguyen, Nga  
    Autozone
24. Ostrowski, Michael  
    Smith & Nephew
25. Podesta, Thomas  
    Christian Brothers University
26. Price, Gabriel  
    Christian Brothers University
27. Poluri, Ravi  
    International Paper
28. Pourhashemi, Ali  
    Christian Brothers University
29. Ray, Asit  
    Christian Brothers University
30. Rutledge, Larry  
    CBU ISTA Packaging Test Lab
31. Scully, Steve  
    Thaddeus Medical Systems
32. Shannon, Jack  
    Christian Brothers University
33. Snow, Kevesha  
    Christian Brothers University
34. Stevens, Ryne  
    Smith & Nephew
35. Stokes, James  
    Bass River Advisors
36. Swaffer, Marea  
    FedEx
37. Tazin, Mohammad  
    Nefab
38. Valverde Toledo, Guillermo Isaac  
    Christian Brothers University
39. Wellford, Brandon  
    Memphis Bioworks
40. Williams, James  
    Smith & Nephew
41. Zhou, Joe  
    FedEx

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**Active Members**

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The State of Logistics – 2019

Clifford F. Lynch

Abstract: The logistics landscape is changing rapidly. This presentation describes some of the current developments and challenges, including such things as network design, transportation trends, and logistics disruptions.

Keywords: Disruptions, Transportation, Distribution Centers, Customer Requirements, Demands

Presenter:

Clifford F. Lynch – Clifford F. Lynch of C. F. Lynch & Associates has been in the logistics industry for over five decades. He was with The Quaker Oats Company for 29 years, the last 13 of those as Vice President – Logistics. He was president of Trammell Crow Distribution Corporation from 1987 – 1993 and has provided management advisory services in logistics for over 25 years. Currently, he serves as Supply Chain Executive in Residence at EpiCenter.

He is a Certified Member of the American Society of Transportation and Logistics and is a member of:
- Editorial Advisory Board, DC Velocity
- Editorial Review Board, Supply Chain Management Review
- Warehousing Education and Research Council
- Executive Board – Intermodal Freight Transportation Institute – University of Memphis

He is an adjunct professor at the University of Memphis, a frequent lecturer at other colleges and universities and an author of hundreds of articles on the subject of logistics, two books on logistics outsourcing and one on transportation in the supply chain. For 15 years, he was a regular columnist for DC Velocity Magazine. He also authored a cookbook entitled The Gourmet Logistical (An Oxymoron). In addition, Mr. Lynch reads novels for the visually impaired on a local radio station.

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Mr. John “Jack” Shannon is a distinguished higher education leader with many years of experience directing not only academic and student-centered initiatives but also public/private partnerships focused on economic development in some of the most economically-challenged communities in the country.

Shannon comes to CBU from Montclair State University in Montclair, New Jersey, where he led the Office of Strategic Alliances, Economic Development, and Civic Partnerships and previously served as the university’s vice president for advancement. Prior to his arrival at Montclair State, he served as the inaugural president and CEO of East Baltimore Development Inc., a groundbreaking initiative that successfully undertook the largest urban redevelopment initiative in Baltimore’s history through the integrated delivery of education, health, and human services programs; the construction of new mixed-income housing; the development of a leading-edge life sciences center; and the launch of a new K-8 community school.

He has also served as the associate vice president for economic development and chief of staff to the executive vice president of the University of Pennsylvania where he was one of the principal architects and implementers of the university’s highly acclaimed “West Philadelphia Initiatives,” a comprehensive neighborhood redevelopment strategy that was awarded the 2003 Urban Land Institute Award for Excellence.

Shannon holds a BA degree in English from La Salle University in Philadelphia, where he currently serves on the executive committee of its board of trustees. He also holds a Master of Public Policy degree from Harvard University and a JD degree from the University of Pennsylvania.
Supply Chain Analytics - Past, Present and Future

Ravi Poluri\textsuperscript{1}

Abstract: An engineered flow of goods and services is what defines a supply chain. However, past performance may not be sufficient to sustain and grow, with growing globalization and complexities. Real-time data transformation and predictive analytics will drive future supply chains. Rethinking supply chains in times of uncertainty, with the goal to make them more resilient will be key to staying ahead of the competition.

Keywords: Supply Chain; Supply Chain Analytics

Presenter:

Ravi Poluri – Ravi Poluri has over 25 years of supply chain experience in various industries. With a bachelor’s in mechanical engineering and a master’s in computer and information sciences, Ravi was recently APICS CSCP certified as well as a green belt in Lean Six Sigma methodologies and practices. He is an adjunct instructor at CBU.

\textsuperscript{1}rpoluri@cbu.edu, Master Planner, Containerboard, International Paper

Proceedings of the 2019 HPC Fall Meeting, November 15, 2019, Memphis, Tennessee, USA
CBU Packaging Program Updates

S. Malasri

Abstract: CBU Packaging Program updates will be discussed and feedback from the audience will be requested. Proposed changes include:

- Additional packaging courses
- Name change from BS in Engineering Management (Packaging Concentration) to BS in Packaging Engineering Technology
- Future BS in Packaging Engineering

Keywords: Packaging Curriculum

Presenter:

Siripong Malasri is the Dean of Engineering and Director of the Healthcare Packaging Consortium at CBU. He is a registered professional engineer (PE) in the State of Tennessee, ISTA certified packaging laboratory professional and IoPP certified packaging professional.

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Effect of Slenderness to Corrugated Fiberboard and Boxes

S. Malasri¹, A. Brown, C. Gordy, B. Knighton, A. Moses, K. Nicholson, and Z. Tabor

Abstract: This work is a refinement of previous work [1]. In the previous study, various lengths of corrugated strips that had a 2-inch width were compressed to develop buckling curves at 73°F-50%RH and 73°F-90%RH. However, the compression machine’s width of the grips was only 1-inch. Thus, the stress increased near the end grips. In this study, corrugated strips with a 1-inch width were used to improve the results.

In the previous study, corrugated boxes of the same size were used. Horizontal braces were applied to change the unsupported height of these boxes. In this study, boxes with different heights were used without horizontal braces. This resulted in a better representation of box slenderness.

Keywords: Corrugated; Slenderness

Reference:


Presenters:

Siripong Malasri is the Dean of Engineering and Director of the Healthcare Packaging Consortium at CBU. He is a registered professional engineer (PE) in the State of Tennessee, ISTA certified packaging laboratory professional and IoPP certified packaging professional.

Alexander Brown, Carl Gordy, Benjamin Knighton, Alex Moses, Kyle Nicholson, and Zach Tabor are BS in Engineering Management (Packaging Concentration) majors and ISTA certified packaging laboratory technicians.

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Packaging Improvement for Thistle & Bee

*S. Malasri*, A. Brown, C. Gordy, B. Knighton, and Z. Tabor

**Abstract:** Thistle & Bee is a non-profit organization. Its mission is to help women who have survived prostitution and trafficking thrive. The goal of this project is three-fold: (1) Product protection, (2) Environmental friendliness, and (3) Process improvement.

Product protection was done at both product and packaging levels. Environmental-friendly materials were chosen, and shipping box sizes were optimized. Process improvement included efficiency for manual operations and cost reduction.

This was a service-learning project that aligns with CBU’s mission. CBU prepares its students with a slogan “Enter to Learn. Leave to Serve.”

**Keywords:** Packaging Improvement; Sustainability; Protection; Service Learning

**Presenters:**

Siripong Malasri is the Dean of Engineering and Director of the Healthcare Packaging Consortium at CBU. He is a registered professional engineer (PE) in the State of Tennessee, ISTA certified packaging laboratory professional and IoPP certified packaging professional.

Alexander Brown, Carl Gordy, Benjamin Knighton, and Zach Tabor are BS in Engineering Management (Packaging Concentration) majors and ISTA certified packaging laboratory technicians.

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Box Compression Strength Enhancement

S. Malasri¹, D. Duckworth, A. Moses, K. Snow, J. Houseworth, G. Johns, and J. Davenport

Abstract: In this study, four different methods to increase corrugate box compression strength were explored.

- Horizontal Brace: This method was inspired by the belt of power lifters as shown below.
- Diagonal Brace: This method was modeled after diagonal single and double braces found in building structures.
- Corner Post & Corner Stiffener: About 2/3 of box compression strength is attributed to the strength of its four corners. Thus, strengthening box corners increases overall box strength.

Keywords: Corrugated Box; Compression Strength

Presenters:

- Siripong Malasri is the Dean of Engineering and Director of the Healthcare Packaging Consortium at CBU. He is a registered professional engineer (PE) in the State of Tennessee, ISTA certified packaging laboratory professional and IoPP certified packaging professional.
- Deliya Duckworth, Alex Moses, and Kevesha Snow are BS in Engineering Management (Packaging Concentration) majors and ISTA certified packaging laboratory technicians. Deliya received OSHA 10-Hr General Industry Safety Certification and Lean Six Sigma Yellow Belt Certification.
- Jade Houseworth graduated from BSEM (Packaging) at CBU in May 2019. She is currently a Structural Design Engineer with International Paper in Richmond, VA. Jade is an ISTA certified packaging laboratory technologist.
- Georgina Johns graduated from BSEM (Packaging) at CBU in May 2019. She is currently a Packaging Project Engineer with Smith & Nephew in Memphis, TN. Georgina is an ISTA certified packaging laboratory technologist. She is also working towards her MS in Engineering Management at CBU.
- Jazzmyn Davenport graduated from BSEM (Packaging) at CBU in May 2019. She is currently with Marvin Doors & Windows in Ripley, TN. Jazzmyn is an ISTA certified packaging laboratory technologist. She also received OSHA 10-Hr General Industry Safety Certification.

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