



**Topic of the Speech:**

Assessment of Carbon Emission in Apparel Sewing Process

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**Professor Yan Chen** received her PhD degree in textile engineering, School of Textile and Clothing Engineering, Soochow University. Currently she is the professor in Department of Clothing Design and Engineering; the reviewer of Journal of Global Fashion Marketing, Journal of Industrial Textile, Textile Research Journal, Journal of Textile Research; the committee member of SMDTex, ERAMUS.

The research work of Yan CHEN involves textile and garment design, garment manufacture management, sensory evaluation of textile and clothing. She has published more than 20 papers in key textile journals in the recent 5 years and supervised 5 PhD students and more than 15 master students. She has conducted one national research project (silk fabric performance research) and a number of provincial research projects in the area of interactive garment design system, evaluation and prediction of textiles and fashion products using intelligent system and management of clothing manufacture processes.

## ABSTRACT SUBMISSION



-For invited speaker only

### **Assessment of Carbon Emission in Apparel Sewing Process**

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#### **ABSTRACT (NO MORE THAN 500 WORDS:)**

Carbon emission control during garment manufacture has become one of the important issues for sustainable development of apparel industry. The operation of production line will have an important impact on carbon emissions. Carbon emission assessment models were established for fabrics, accessories, sewing equipment and workers involved in garment sewing production. Among them, the number of sewing equipment and workers is related to the balance of production line. Based on the carbon emission assessment model, the genetic algorithm is used to optimize the production line according to the process flow, machine type and the layout of garment parts. The carbon emissions by different production organization were compared. The results showed that the carbon emissions of the production lines could be controlled by optimization of the production line organization. It is expected that to apply the results of this research to provide the basis for supervision, evaluate and controlling of carbon emissions during garment manufacture.