Editorial – Textile modelling

Focused issue; textile modelling

The importance of textile modelling cannot be overemphasised, and I am very happy that *IJCST* is able to produce this Focused Issue on this topic. However, before we look at some of the technical issues that underpin this area of research, let us consider its economics.

The global apparel market which consists of ladieswear, menswear, sportswear, and childrenswear is about \$1.5 trillion, and it is projected to reach \$2.25 trillion by 2025. The largest apparel markets are the USA, China and Japan, with ladieswear being the best-selling sector, and sportswear being the fastest growing in market share (www.statista.com).

The textile, clothing and footwear industry currently employs 23.6 million workers, with 5.3 million of them in China. A lot of manufacturing and jobs have shifted in the developing world since the 1990s, and in terms of employment, developed countries have lost more than 60% of their workforce. There is a lot of discussion about a "widening earnings gap between Textile Clothing and Footwear workers in higher- and lower-income countries (www.ilo.org)." and theories with remedies are being put forward.

The impact of textile waste and pollution on the environment is now a huge issue of concern, and the EU is calling for an immediate "*Circularity principles need to be implemented throughout all stages of a value chain to make the circular economy a success. From design to production, all the way to the consumer*" (www.europarl.europa.eu). When we look at some of the statistics, it is obvious that the industry is facing an unsustainable future. With 79 billion cubic metres of water, 5 million tons of synthetic microfibre released to our seas every year, our industry has an environmental impact of 10% of the global greenhouse gas emissions (www.europarl.europa.eu), so we have a huge task ahead of us.

Textile modelling will not solve all of these problems, but it can go a long way to facilitate solutions by providing scientific tools which will enable the industry to develop and produce apparel "right first time and with targeted end users" without waste and without surplus, promoting circularity principles. And there has been a lot of progress over the last 20 years towards predicting the behaviour of fabrics and garments under manufacturing and wear conditions despite the complexity of textiles as non-homogenous, diverse and viscoelastic materials. Predicting behaviour can make production more efficient and enhance product sustainability. So, the selection of the eleven original papers in this focused study is another milestone towards these goals.

This publication starts with the fabrication of mannequins using 3D scanning by Seolyoung Oh and Dongae Suh, followed by a paper by Danyi Fan *et al.* on a study of hands for glove fitting, and two papers on parametric pattern making by Bao *et al.* and Yoo-Jeong Lee and Sungmin Kim. Attention is then focussing on the dynamic measurement of breasts by Jie Pei *et al.* coupled with the next paper by Fang Fang *et al.* on the prediction of bra components and design. The next four papers are on fitting of body and sleeve by Zhang Jing and Zhao Hua, modelling of the neck-shoulder shape by Ting Wang and Bingfei Gu, the drape behaviour of suits by Balci Kiliç *et al.*, and fashion based on features by Yoo-Jeong Lee and Sungmin Kim. The final paper is by Wei Wenda *et al.* on a method for objectively evaluating the sensory comfort of skirt patterns by modelling.

The effort of all those authors and their reviewers for producing those papers is very much appreciated, and their achievements are celebrated in this "Textile Modelling" Focused Issue of the *International Journal of Clothing Science and Technology*.

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