

## SizeUSA User Group Meeting - 2009



### User's Group Webinar - August 18, 2009

By Karen Davis, [\[TC\]<sup>2</sup>](#)

The fifth annual SizeUSA User's Group was opened to the public and presented in a webinar format. The two-hour program included the following presentations:

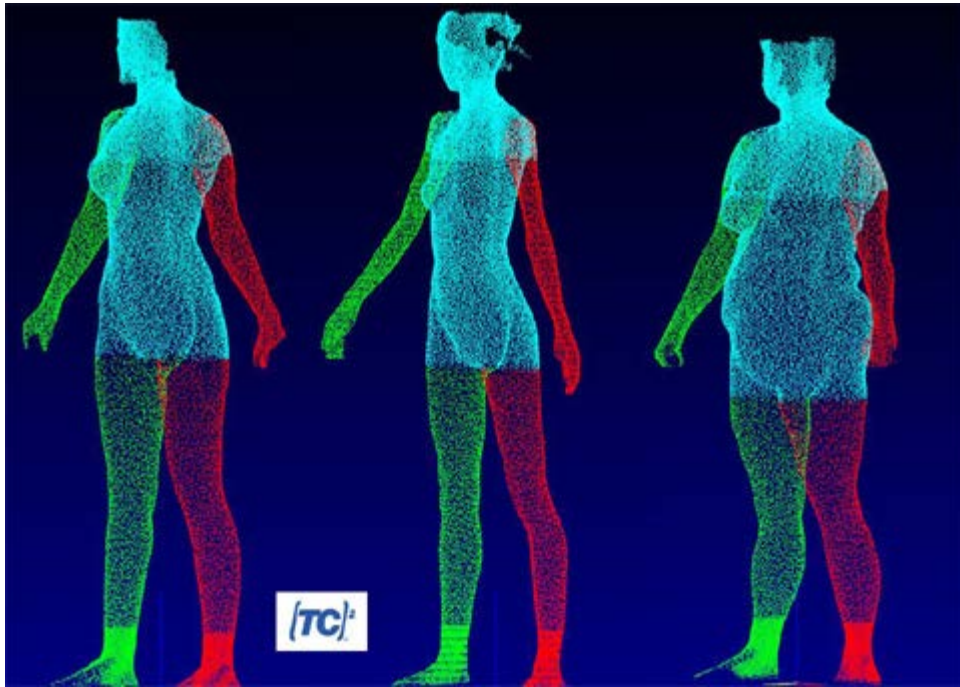
Su-Jeong Hwang Shin – Texas Tech University – Dr. Shin has been researching the U.S. men's apparel industry. At \$70 billion per year, it includes about \$49 billion in men's sportswear. In evaluating 34 body dimensions of the over 3600 men included in the SizeUSA database, Dr. Shin's research concluded that 56% of the men in the survey would not fit into the standard regular sizing for men's apparel. Her analysis separated men into four categories – slim; heavy inverted (athletic or big/tall); slant inverted (regular); and short, round top.

David Bruner, [TC]<sup>2</sup> - presented [TC]<sup>2</sup>'s avatar engine. The avatar engine was created from statistical data from thousands of scans for accuracy using 3,000 automatic markers. A 3D template mesh is morphed to the subject's scan to create the avatar, which is accurate within a few millimeters. Weight loss or gain can also be predicted and visualized. Without the accessibility to a body scanner, avatars can be created using five basic measurement inputs (height, inseam, bust, waist and hip). A set of 3.2 million 3D human models that are statistically representative of the US population were announced as available using the Avatar Engine. The avatar creation engine is depicted at [www.imagetwin.com](http://www.imagetwin.com). In 2010, avatars created from photos will be available using a new "3D scan from photo development."

Nancy Schofield, Univ. of WI–Stout and Lynn Boorady, Univ. of MO-Columbia – explained testing assumptions for grading men's shirts. Dr. Schofield provided a brief explanation of how to grade for sizes using Cardinal points and landmarks. Men's shirt grading was derived from Civil War data, and women's grading originated in the 1940's. The women's apparel grade rules were based on the hour glass shape, which is only apropos in a minority of current body shapes. Grading is done proportionately across sizes, and as a person's body shape changes, size proportions are no longer identical, and front and back measurements do not increase proportionately. Realistic grade rules are needed to address fit issues for a wider segment of the population.

Susan Ashdown – Cornell University. Dr. Ashdown discussed ways to teach students the power of population data when designing apparel. Different body shapes can wear the same size, and posture variation affects fit and sizing. The SizeUSA data includes body depth variation information, which is also critical in garment design.

David Bruner and Susan Simon of [TC]<sup>2</sup> showed virtual fashion solutions for 3D garment visualization including a new retail interface for the NX-16 3D body scanner. Rather than draping a garment on the subject, as is done in many CAD applications, the 3D garment can be morphed to fit the subject's shape. With this application, style and color is visualized in just seconds after the 3D body scan is completed. New features include garment and hair transparency, selection of hair styles and color, and skin tones can be chosen.



*NX-16 3D body scans of subjects*



*3D garment visualization on scan subjects using Browzwear and OptiTex software*

The process by which 3D content is loaded onto the [TC]<sup>2</sup> system from several applications was illustrated, including Browzwear, DAZ3D, Lectra, OptiTex, Poser, Tukatech, and Virtual Fashion Professional. Once loaded on the [TC]<sup>2</sup> system, the garments can be shown on any scan subject in real time (seconds). Six different female avatars and four male avatars from these vendors are incorporated into the software. New features that will be offered are texturing the face from a photo, reposing the avatar for aesthetics and technical design, and animating the avatar. Discussion and demonstration of new features still to come this year included animated avatars and examples of changing a standing avatar to a seated pose, as if driving a car, and an avatar walking. Scanner owners whose systems are under active maintenance programs for software and hardware will be receiving the new [TC]<sup>2</sup> Body Measurement System software release within the next week incorporating the new functionality and avatar creation capabilities.



August 2009