

Sørensen, D.N. and L.K. Voigt, Modelling Flow and Heat Transfer around a Seated Human Body, *Building and Environment* 38 (2003) 753-762.

A database containing a detailed representation of the surface geometry of a seated female human body was created from a surface scan of a thermal manikin. The radiative heat transfer coefficient and the natural convection flow around the manikin were calculated using computational fluid dynamics. Results were compared to published data and to measurements by particle image velocimetry. The agreement was generally good and variations around the manikin well predicted. The geometry is an exact copy of an experimental thermal manikin, enabling detailed comparisons between calculations and experiments.



*The zoom at the surface of the computational manikin shows the layer of prism cells used to resolve the boundary layer.*