



World Engineering Anthropometry Resource

WEAR CONFERENCE 2010
Anthropometry applied to product innovation
Valencia 22-23 September 2010



INSTITUTO DE
BIOMECÁNICA
DE VALENCIA



World Engineering Anthropometry Resource



The adequate adaptation of products to the human dimensions and shape is becoming of great influence in purchase decision of user human products.

- Ergonomics and comfort are characteristics more and more demanded by customers.
- The global market requires knowledge about anthropometric diversity and the availability of anthropometric resources from over the world.
- New business models, like customization and best-fitting, based on anthropometric dimensions of the customer are on the increase.

In this context, the application of anthropometry data and technology is a very interesting way to innovate in products and services. The objective of this conference is **to show to the industrial sector** the innovation opportunities provided by this field for the development of new products and services.

The conference programme counts on more than **20 world renowned speakers** and experts in the application of Anthropometry and Ergonomics to the development of new innovative products, such as cars, seats, helmets, garment or footwear for different populations.



22nd September 2010

09:00-09:30 Welcome and opening
Dr. Javier Sánchez
Instituto de Biomecánica de Valencia (IBV)

NEW METHODS FOR ENGINEERING ANTHROPOMETRY

09:30-09:50 3-D or Not 3-D?
Benefits and Potential of 3D Anthropometry
Dr. Kathleen Robinette
Air Force Research Laboratory (AFRL)

09:50-10:10 Making 3-D Anthropometric Data Usable
Dr. Chang Shu
National Research Council Canada

10:10-10:30 Evaluation of Digital Human Models
Dr. Hein Daanen
TNO Defence

10:30-10:50 COFFEE BREAK

10:50-11:10 3D Laser scanning technology applied to ergonomics projects
Dr. Carla Patricia Guimaraes
Instituto Nacional de Tecnologia (INT)

11:10-11:40 WEAR Data Network DEMO: ARIS and ERGODATA (Anthropometry Research Information System)
Prof. Regis Mollard
Université Paris Descartes

11:40-12:00 AMI DEMO
Distributed Networking: How you can keep your database AND be a part of WEAR"
Dr. Eric Ennis
Infoscitex Corporation
Dr. Kathleen Robinette
Air Force Research Laboratory (AFRL)

12:00-12:20 OPEN DISCUSSION

CASE STUDIES

12:20-12:40 Statistical analysis of 3D body shape and its Applications: sizing eyeglass frames and simulation of body shape for health services
Dr. Makiko Kouchi
Digital Human Research Center (AIST)

12:40-13:00 Made4U, towards the complete personalization of spectacles
Mrs. Begoña Mateo
IBV

13:00-14:00 LUNCH

14:00-14:40 WORKSHOP: PRACTICAL DEMO OF 3D SCANNERS AND PRESSURE SYSTEMS

14:40-15:00 Usability and anthropometry of police cars
Prof. Johan Molenbroek
Delft University of Technology

15:00-15:20 Anthropometry and movement analysis applied to test automotive seats
Dr. Helios de Rosario
IBV

15:20-15:40 Customization of bike geometry based on user anthropometry and sport technique
Dr. Javier Gámez
IBV

15:40-16:00 Anthropometric study of Spanish soldiers applied to military equipment
Mr. Carlos Martín
Grupo Iturri

16:00-16:20 A Holistic Systemic Approach on Innovation
Dr. Fozzy Moritz
SportKreativWerkstatt

16:20-16:40 OPEN DISCUSSION

16:40-16:50 CONCLUSIONS



23rd September 2010

09:00-09:10 Welcome and opening
Dr. Juan Carlos González
IBV

**ANTROPOMETRY APPLIED TO GARMENT
& FOOTWEAR DESIGN**

09:10-09:30 From engineering anthropometry to Wearable and emotional products: the “accept’ innov” project
Prof. Regis Mollard
Université Paris Descartes

09:30-09:50 Anthropometric data for sizing system for apparel industry. Morphological variations related to educational or activity level
Prof. Marion Wolff
Université Paris Descartes

09:50-10:10 Application of Anthropometric Data to Garment Sizing and Design via Innovative Product Development Tools
Mrs. Daisy Veitch
SHARP Dummies Pty Ltd

10:10-10:40 Anthropometric survey of the Spanish female population aimed at the apparel industry
Mr. Carlos Arnaiz/Mrs. Sandra Alemany
Instituto Nacional de Consumo /IBV

10:40-11:10 COFFEE BREAK

11:10-11:40 Anthropometry applied to children products
Bertrand Colombier
l’Institut Français de l’Habillement et du Textile (IFTH)

11:40-12:10 Demonstration i-size Portal.
Anthropometric database to garment design
Dr. Rainer Trieb
Human Solutions

12:10-12:30 4D measurement of skin movement and its application to garment design.

Dr. Masaaki Mochimaru
Center Digital Human Research Center (AIST)

12:30-13:00 OPEN DISCUSSION

13:00-14:00 LUNCH

14:00-14:20 Design criteria to develop motorcycle Helmets from 3D head shape
Dr. José Olaso
IBV

14:20-14:40 Fit of the combat suits of the Netherlands Armed Forces
Prof. Hein Daanen
TNO Defence

14:40-15:00 Anthropometric survey of the Spanish fire brigade for the development of a new intervention suit for fire-fighters with high ergonomic performance
Mrs. Beatriz Nácher
IBV/APTA

15:00-15:20 Garment fitting design with pressure mapping
Mr. Agustín Macía
Smart Solutions Technologies (NUUBO)

15:20-15:40 Comparison of two methodologies for characterizing foot shape using 3D data
Mrs. Sarah Skelton
Ergonomics Technologies (ERGOTECH)

15:40-16:00 Foot anthropometry and insole design
Prof. MJ Wang
National Tsing Hua University

16:00-16:20 OPEN DISCUSSION

16:20-16:50 CONCLUSIONS

16:50-17:00 CLOSURE
Dr. Pedro Vera (**IBV**)
Sociedad Estatal para el Desarrollo del Diseño y la Innovación (DDi)
Instituto de la Mediana y Pequeña Industria Valenciana (IMPIVA)



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