



Asian Workshop on
3D Body Scanning Technologies
 Tokyo, Japan, 17-18 April 2012

Organized by HOMETRICA CONSULTING - Dr. Nicola D'Apuzzo www.3dbodyscanning.org/A2012

Preliminary Program

Program outline:

Asian Workshop on 3D Body Scanning Technologies, Tokyo, Japan, 17-18 April 2012				
Time	Tuesday 17 th April 2012		Wednesday 18 th April 2012	
08:00	Registration	Exhibition Setup	Setup	Exhibition Setup
09:00	Opening Session	Exhibition	Technical Session 4 Digital Anthropometry	Exhibition
10:00	Break		Coffee Break	
11:00	Technical Session 1 Body Scanning for Apparel		Technical Session 5 Human Body Sizing Surveys	
12:00	Lunch Break		Lunch Break	
13:00				
14:00	Technical Session 2 Body Scanning for Medicine and Health		Technical Session 6 Processing of Body Scan Data	
15:00	Coffee Break		Coffee Break	
16:00				
17:00	Technical Session 3 Body Scanning Systems and Technologies		Technical Session 7 Human Body Modeling	
18:00	Buffet Dinner Party	Closing Session with Discussion		

Tuesday 17th April 2012

08:00-09:15 **Registration** – Welcome desk

09:15-10:00 **Opening Session** – Conference Room



Welcome speech from the workshop director
Nicola D'APUZZO
 Hometrica Consulting, Zurich/Ascona, Switzerland



Welcome speech from the director of the Digital Human Research Center
Masaaki MOCHIMARU
 Digital Human Research Center, AIST, Tokyo, Japan

10:00-10:30 **Break**

10:30-12:30 **Technical Session 1: Body Scanning for Apparel** – Conference Room



Analysis of three dimensional torso shape and bodice pattern shape of young Japanese Women
Keiko Watanabe
Kyoto Women's University, Kyoto, Japan



Made-to-Measure jeans
Pirjo Elbrecht
Nomo Jeans Corp., Helsinki, Finland



Investigation into the fit and the distribution of air gaps of the protective jackets to female body form
Nazia Nawaz, Olga Troynikov, Kate Kennedy
School of Fashion and Textiles, RMIT University, Melbourne, Australia



Size survey – from collection of data through administration and analysis to documentation
Authors n.a.
Human Solutions GmbH, Keiserslautern, Germany



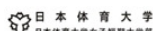
Me-Ality by Unique Solutions Technology
Bob Kutnick
Me-Ality, Unique Solutions Ltd., New York (NY), USA

12:30-14:00 **Lunch Break**

14:00-16:00 **Technical Session 2: Body Scanning for Medicine and Health** – Conference Room



3D virtual images as a motivational tool for an individual's exercise and diet
Young-A Lee
Iowa State University, Department of Apparel, Ames, Iowa, USA



Applications of 3D body scanning technology to human anthropometry: body surface area and body volume measurements in the fields of health and sports sciences
Kazuo Funato¹, Noriko Hakamada¹, Hidehiko Nagashima², Chiyoharu Horiguchi²



¹ Laboratory for Human Movement Sciences, Nippon Sport Science University, Yokohama, Japan
² Hamamatsu Photonics K.K., Japan



Using 1D and 2D anthropometric data to develop a biofidelic breast cancer patient simulator
Daisy Veitch¹, Rachel Dawson², Harry Owen², Chris Leigh¹
¹ Sharp Dummies, Belair SA, Australia
² Flinders Medical Centre, Bedford Park SA, Australia



Analysis of 3D foot shape features in elderly with hallux valgus using multi-dimensional scaling method
Sung Hyek Kim
Health Science University, Yamanashi, Japan



Real-time 3D body scanning
Minoru Niimura¹, Matthew W. Bellis¹, Daniel L. Lau²
¹ Seikowave KK., Kawasaki, Japan
² University of Kentucky, Lexington (KY), USA

16:00-16:30 **Coffee Break**

16:30-18:30 **Technical Session 3: Body Scanning Systems and Technologies** – Conference Room



Artec 3D body scanning systems
Tomohide Imada
DataDesign Co.Ltd., Nagoya, Japan



VITUS 3D body scanner
Markus Maurer
VITRONIC Dr.-Ing. Stein Bildverarbeitungssysteme GmbH, Wiesbaden, German



Human body measurement by digital photogrammetry system
N. Kochi, K. Kitamura, H. Watanabe, M. Yamada
Imaging and Measuring Laboratory, R&D Center, Topcon Corporation, Tokyo, Japan



A portable 3D body scanner and its application
Hidetoshi Kameshima¹, Masaki Hayashi^{1,2}, Yuji Nishio¹, Yukio Sato²
¹ Spacevision Inc., Tokyo, Japan
² Keio University, Kanagawa, Japan



KX-16: 3D body scanning using low cost depth sensors
David Bruner
[TC]² Corp., USA



3D foot scanning system INFOOT – Automated anatomical landmark detection and labeling
Kozo Kimura¹, Tsuneaki Utsumi¹, Makiko Kouchi², Masaaki Mochimaru²
¹ I-Ware Laboratory Co.Ltd., Osaka, Japan
² Digital Human Research Center, National Institute of Advanced Industrial Science and Technology, Tokyo, Japan

18:30-20:00 **Buffet Dinner Party**

Reservation/registration required

09:30-10:00 **Technical Session 4: Digital Anthropometry** – Conference Room



A protocol for evaluating the accuracy of 3D body scanners – Landmark locations and surface shape
*Makiko Kouchi*¹, *Masaaki Mochimaru*¹, *Bruce Bradtmiller*², *Hein Daanen*³, *Yunja Nam*⁴, *Peng Lee*, *Beatriz Nacher*⁵
¹ Digital Human Research Center, National Institute of Advanced Industrial Science and Technology, Tokyo, Japan
² Anthrotech, USA; ³ TNO, Netherlands; ⁴ Seoul National University, S. Korea
⁵ Universidad Politecnica de Valencia, Spain



Automatic measurement of dimensions of 3D foot scan data
Jinkyou Son, *Seung-Yeob Baek*, *Kunwoo Lee*
Human Centered CAD Laboratory, Seoul National University, S. Korea



Three dimensional (3D) facial data classification based on a local shape feature description
X.H. Zheng^{1,2}, *S.T. Ding*², *Q.X. Zhou*¹, *J.W. Niu*³
¹ Key Laboratory of Mechanobiology and Biomechanics, Beihang University, Beijing, China
² Research Institute of Defense Technology, Beijing, China
³ Department of Logistics Engineering, University of Science and Technology Beijing, Beijing, China



Waist measurements compared: definitions (ISO vs CAESAR) and instruments (manual vs 3D scanned data)
Daisy Veitch
Sharp Dummies, Belair SA, Australia

10:00-10:30 **Coffee Break**

10:30-12:30 **Technical Session 5: Human Body Sizing Surveys** – Conference Room



Anthropometric study on Chinese head
Roger Ball, *Yan Luximon*, *Ho Chi Eric Chow*
Asian Ergonomic Lab, School of Design, The Hong Kong Polytechnic University, Hong Kong



Australian Apparel Anthropometric 3D Database (AAA3D): a collaborative approach
*Kate Kennedy*¹, *Jo Kellock*², *Olga Troynikov*¹
¹ RMIT University, Australia
² Council of Textiles and Fashion Industries of Australia



SIZE INDIA: India's first 3-D whole body scanning survey - Experiences & future scope
Dileep D. Kulkarni, *C. V. Ghaisas*, *A. V. Mannikar*
The Automotive Research Association of India, Pune, India



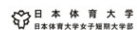
National anthropometric surveys in china
*Taijie Liu*¹, *Chao Chuzhi*¹, *Chaoyi Zhao*¹, *Rechard Zhao*²
¹ China National Institute of Standardization, Beijing, China
² Leatech Co. Ltd., Beijing, China



Me-Ality by Unique Solutions: Human Body Sizing
Joanna Gould-Thorpe
Me-Ality, Unique Solutions Ltd., Dartmouth (NS), Canada

12:30-14:00 **Lunch Break**

14:00-15:30 **Technical Session 6: Processing of Body Scan Data** – Conference Room



Estimation of center of gravity obtained from 3D whole body scanning anthropometry method
*Noriko Hakamada*¹ and *Kazuo Funato*²
¹ Nippon Sport Science University, Tokyo, Japan
² Graduate School of Health and Sport Science, Nippon Sport Science University, Tokyo, Japan



Shape map method for 3D body scanning information storage
*Peng Sixiang*¹, *Chan Chee-kooi*¹, *Ameersing Luximon*¹, *W.H. Ip*²
¹ Hong Kong Polytechnic University, Institute of Textiles & Clothing, Hong Kong
² Hong Kong Polytechnic University, Department of Industrial and Systems Engineering, Hong Kong



Rules research of neck curves for 3D female body mannequin
Junqiang Su^{1,2,3}, *Haiyan Kong*^{1,2}, *Bingfei Gu*^{1,2}, *Guolian Liu*^{1,2}
¹ National Engineering Laboratory for Modern Silk, Suzhou, Jiang Su, China
² College of Textile and Clothing Engineering, Soochow University, Suzhou, Jiang Su, China
³ Changzhou Textile & Garment Institute, Jiang Su, China



Using body scan technology (computer-aided anthropometry) to measure breast volume
*Daisy Veitch*¹, *Karen Burford*², *Phil Dench*³, *Nicola Dean*², *Philip Griffin*²
¹ Sharp Dummies, Belair SA, Australia; ² Flinders Medical Centre, Bedford Park SA, Australia
³ headus (metamorphosis) Pty Ltd, Osborne Park WA, Australia

15:30-16:00 **Coffee Break**

16:00-17:30 **Technical Session 7: Human Body Modeling** – Conference Room



Modeling study of 3D female body mannequin used in pattern generation

Bingfei Gu^{1,2}, *Haiyan Kong*^{1,2}, *Junqiang Su*^{1,3}, *Guolian Liu*^{1,2}

¹ National Engineering Laboratory for Modern Silk, Suzhou, Jiang Su, China

² College of Textile and Clothing Engineering, Soochow University, Suzhou, Jiang Su, China

³ Changzhou Textile & Garment Institute, Jiang Su, China



Web-based human body modeling by restricted number of anthropometric data

*Igor Goncharenko*¹, *Heihachi Ueki*¹, *Katsuaki Takashiba*¹, *Masaaki Mochimaru*²,

*Makiko Kouchi*², *Satoko Usui*², *Masakazu Odahara*³, *Toru Sekizuka*¹

¹ I-Net Corp., Tokyo, Japan

² AIST, Tokyo, Japan

³ Nihon Unisys Ltd., Tokyo, Japan



Digital human modeling for Indian anthropometry

*Abira Dasgupta*¹, *Bharat Vijayaraghavan*¹, *N. R. Rajhans*¹, *Dileep Kulkarni*², *A. V. Mannikar*²

¹ College of Engineering, Pune, India

² The Automotive Research Association of India, Pune, India



Development of low cost foot scanner using foot model

Ameersing Luximon

Hong Kong Polytechnic University, Institute of Textiles & Clothing, Hong Kong

17:30-18:30 **Closing Session with Discussion** – Conference Room



Closing speech and announcements for 3D Body 2012

Nicola D'APUZZO

Hometrica Consulting, Zurich/Ascona, Switzerland



Discussion on validation methods for 3D body scanners

Moredator: Masaaki MOCHIMARU

Digital Human Research Center, AIST, Tokyo, Japan

Exhibitors (preliminary list)



DataDesign (Japan) – www.datadesign.co.jp

DataDesign is a solutions provider specialized in 3D CAD/CAM, 3D scanning, 3D data processing and 3D printing. DataDesign is commercial partner of Artec Group Inc. (USA) and will demonstrate Artec's 3D scanning equipment at the workshop exhibition.



VITRONIC (Germany) – www.vitronic.com

VITRONIC, a world leading organizations in the field of machine vision, is developer and manufacturer of body scanning systems employed by Human-Solutions. At the exhibition, VITRONIC will demonstrate its 3D full body scanner VITUS.



SpaceVision (Japan) – www.spacevision.com

SpaceVision is a leading manufacturer of innovative 3D imaging solutions used in various application fields. SpaceVision will demonstrate at the workshop exhibition the world's smallest, lightest and fastest 3D body scanner.



Beijing Leatech (China) – www.leatech.net

Beijing Leatech is a leading trading company for 3D human body technology in China, dedicated in the garment, automotive and ergonomic research industry. It provides solutions by integrating worldwide 3D human body technology.



[TC]² Corp. (USA) – www.tc2.com

[TC]² is a world leader in 3D body scanning hardware and software. [TC]² provides 3D body scanning solutions in apparel, virtual fashion, health/fitness, medical, gaming, and online virtual worlds applications. The new low cost full body scanner KX-16 will be public demonstrated at the exhibition for the first time.



I-Ware Laboratory (Japan) – www.iwl.jp

I-Ware Laboratory is a pioneer and world leader in 3D foot scanning hardware and software. At the exhibition of the workshop, I-Ware Laboratory will demonstrate its 3D foot scanning solutions.



Seikowave (Japan) – www.seikowave.com

Seikowave is developing 3D imaging technologies targeted at healthcare applications and other sectors. Seikowave will demonstrate the real-time structured light body measurement system.

Contact information:

Workshop venue: National Institute of Advanced Industrial Science and Technology (AIST) Waterfront 3F
Digital Human Research Center
2-3-26, Aomi, Koto-ku, Tokyo 135-0064, Japan

Workshop office: HOMETRICA CONSULTING - Dr. Nicola D'Apuzzo
Via Collegio 28, CH-6612 Ascona, Switzerland

Workshop website: www.3dbodyscanning.org/A2012

Workshop e-mail: asia@3dbodyscanning.org

