

Media Release – ISB NDI Student Award

Innovative Student Research Recognized by International Society of Biomechanics

DUNEDIN, NEW ZEALAND – JULY 11, 2003:

The International Society of Biomechanics today presented Jang-Hee Yoo of the Department of Electronics and Computer Science at the University of Southampton, UK with the NDI Student Award for his innovative research in the field of motion capture and gait biomechanics at the ISB's 19th Congress in Dunedin, New Zealand.

Human motion capture is a crucial element in clinical and other biomechanics applications. In clinical gait analysis, most motion capture systems use external markers and represent the actual movement as 3D trajectories of the markers, which may be translated into useful variables such as body movements and joint angles. Marker based systems can acquire precise motion information, but require specialised hardware and require subjects to attend a special laboratory, and so markerless systems would make motion capture and clinical gait analysis more available in many areas.

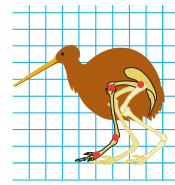
The winning research describes a new markerless system for analysing and classifying human gait by computer vision techniques. Once gait features are extracted from a video sequence, an enhanced back propagation algorithm is employed to classify them. As such, the new system aims to derive measures of biomechanical significance, and this has been demonstrated in part by the capability to recognize individuals by their gait.

Dr Alan Walmsley of Massey University, the Chair of the judging panel said "With continued development, this highly original research has the potential to revolutionize not only clinical video gait analysis, but also security systems because it has the ability to identify individuals by means of gait features."

"We are proud to support innovative research through the NDI Student Awards program," said David Crouch, President of NDI. "NDI is committed to the critical work done by the International Society of Biomechanics and its members."

The opening event of the Congress, the Wartenweiler Memorial Lecture, was delivered by Dr Steven Vogel of Duke University, Durham, USA. He compared natural structures that have low torsional stiffness relative to their flexural stiffness with man made structures that often exhibit the opposite characteristics. Other keynote lectures at the Congress addressed wide-ranging topics including sport biomechanics, bone mechanics, back pain, muscle fatigue, and the effect of Tai-Chi on fall prevention in the elderly. The Muybridge Medal (the most prestigious award of the ISB) was presented to Professor Tetsuo Fukunaga of Waseda University, Japan, for his work on muscle-tendon mechanics in exercise.





International
Society of Biomechanics
XIXth Congress

The Human Body in Motion

6 - 11 July 2003, Dunedin, New Zealand
www.ISB2003.otago.ac.nz

About The International Society of Biomechanics

The International Society of Biomechanics was formed at Penn State University in 1973 to promote biomechanics internationally with special emphasis on the biomechanics of human movement. The Society's members include more than 1,200 scientists from a variety of disciplines including anatomy, physiology, engineering, orthopaedics, sport science and medicine, and ergonomics.

About NDI

NDI is trusted by international leaders in medicine, industry and research for the accuracy and reliability of its measurement technology. NDI systems are used in applications from image-guided surgery to aeronautics; from quality inspection to human motion analysis. Today, the company is a world leader in advanced 3D measurement technology with offices in Canada, Germany and Hong Kong. The company has more than 5,000 installations in over 25 countries around the world.

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