

40th Conference of the
International Society of Biomechanics in Sports



Conference Proceedings



Proceedings edited by

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40th Conference of the International Society of Biomechanics in Sports

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Each paper in these proceedings has been reviewed by at least two members of the scientific committee.

The correct format for citations is as per the APA style guidelines for the Sports Biomechanics journal http://www.tandf.co.uk/journals/authors/style/reference/tf_APA.pdf:

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The International Society of Biomechanics

Primary Purposes

- To provide a forum for the exchange of ideas for sports biomechanics researchers, coaches, and teachers.
- To bridge the gap between researchers and practitioners.
- To gather and disseminate information and materials on biomechanics in sports.

Members

The International Society of Biomechanics in Sports is composed of members from all over the world with a common desire to study and understand human movement, especially as it relates to applied sports biomechanics. Participants come from a wide range of backgrounds including exercise science, education, engineering, computer science, rehabilitation and medicine to name a few. ISBS members have written some of the most widely used university textbooks as well as practitioner books and manuals. Hundreds of refereed journal articles, as well as widely read practical articles in popular journals, have been published by ISBS members. In addition, members have developed new coaching, teaching and training strategies and patented sports, exercise and rehabilitation equipment. The majority of pioneers from the computer era of sports biomechanics have at one time or another participated in ISBS activities, with most innovations in biomechanics research technology having come from these individuals. In short, if it is sports biomechanics, ISBS members are in it.

Annual Conference

The first full scale conference of the International Society of Biomechanics in Sports (ISBS) was held June 20-25, 1982, in San Diego, California, with 123 participants. ISBS initiated a constitution on May 7, 1983, with subsequent constitutional revisions over time to suit the changing needs of the Society. Some of the first field-based research activities of ISBS were at the 1976 Olympic Games and 1978 Commonwealth Games, with numerous other research projects completed since that time. The Annual Conference of the ISBS family are conducted in a friendly atmosphere, which favours and encourages wide participation. This ISBS congeniality is unique and dear to its members. The quality of research presented and materials produced are at the cutting edge of knowledge and technology. In addition to oral and poster research presentations select sport science topics are covered in depth each year through special lectures. In addition, a special feature includes the Geoffrey H.G. Dyson lecture presented by an outstanding scientist in sports biomechanics. A number of other awards and recognitions are given each year including the new Investigator Award.

Acknowledgements

The 2022 ISBS conference organising committee would like to thank all members of the scientific committee for their careful consideration and reviewing of papers. This conference was made possible by the superb steering of VP Conferences Tim Exell, VP Publications Stuart McErlain Naylor, and VP Awards Neil Bezodis - many thanks for your advice and assistance throughout the conference year and before. We would especially like to thank everyone who submitted a paper and attended the conference. A special thanks goes to the Editorial Board and Jacob Beesley as conference administrator and Denise Glinister and Sandra Rogers from the LJMU events team.

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Scientific Program

A total of 195 papers were accepted into this year's proceedings.

This year's conference papers covered the following topics:

ACL SIDESTEPPING
ACL RECONSTRUCTION
ACL INJURY RISK
ACL METHODS
NEURAL NETWORKS
METHOD EVALUATION
BASEBALL
HEAD IMPACTS
GAIT & POSTURE
CRICKET
GYMNASTICS
CYCLING
DISABILITY SPORT
SOCCER
SWIMMING 1
SWIMMING 2
IMUs
IMUs & COACHING
WATER SPORTS
TENNIS
SPRINTING
RUNNING FOOTSTRIKE
RUNNING INJURIES / AGEING
RUNNING
MUSCLE & TENDON
STRENGTH & CONDITIONING
INJURIES