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## SPORTS SURFACES 'QUANTIFYING THEIR PERFORMANCE REQUIREMENTS'.

This article presents the content and outcomes of the 2<sup>nd</sup> workshop of the SportSURF network, held at Cranfield University on the 26<sup>th</sup> April 2006. The workshop was hosted by Dr Iain James from the Cranfield Centre for Sports Surfaces and a core member of the SportSURF research network.

There were approximately 40 delegates with a mixture of academics and practitioners including leading figures from the sports surface industry.

The workshop packed in a full day of informative debate. Two keynote presentations were given followed by focused debate in the form of Q & A and discussion forums.

The highlights of the workshop included the two keynote presentations from representatives of FIFA (Dr Eric Harrison) and the ITF (Dr Stuart Miller and Jamie Capel-Davis). After the presentations the delegates were given the opportunity to question the presenters. This was followed by an open session for the attendees to present and discuss current research and the future needs. These sessions stimulated some interesting debate which is presented in detail below.



Copies of the presentations given at this workshop are available for download on our website [www.sportsurf.org/workshop2.php](http://www.sportsurf.org/workshop2.php).

This was the second in a series of workshops run by the SportSURF network. Details of future events will be posted on the website when they become available. In the summer of 2007 an international symposium will be hosted by SportSURF. If you have any issues you would like to see highlighted at this conference please contact [C.Young@sportsurf.org](mailto:C.Young@sportsurf.org).

For more information on the SportSURF network, or to become a member, please visit our website [www.sportsurf.org](http://www.sportsurf.org) or contact the network coordinator Dr Colin Young [C.Young@sportsurf.org](mailto:C.Young@sportsurf.org).

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## SPORTSURF BACKGROUND

SportSURF was set up in May 2005. The organisation comprises a core committee from several University establishments who are responsible for carrying out research and development, and SAPCA.

The specific aims and objectives of this new organisation are:

- To advance the science and understanding of player-surface interactions and innovate the better engineering of surfaces to benefit play and end users health.
- To create a new interdisciplinary sports surfaces community.
- To host stimulating meetings/workshops open to all interested parties/stakeholders including a new conference dedicated to this subject area.
- To transfer ideas, techniques, models and technology between researchers and practitioners. To produce multidisciplinary research proposals.
- To disseminate network outcomes widely.

Membership of the network is open to any individual or organisation interested in the provision, management, maintenance and effects on the users of the full range sports surfaces, including sports governing bodies. Initially membership is free and members will be kept informed through its dedicated web site and twice yearly newsletter.

The network's objectives will be achieved by a variety of activities. These will include regular focussed workshops, research seminars and project case studies.

## **KEY NOTE PRESENTATION 1: DR STUART MILLER & JAMIE CAPEL-DAVIS INTERNATIONAL TENNIS FEDERATION**

Download the PowerPoint presentation for full details at [www.sportsurf.org/workshop2.php](http://www.sportsurf.org/workshop2.php).

The ITF team presented the background to the current guidance, and in particular the development of the ITF Performance Standards handbook, published in 1997.

This has a focus on court classification only, and not user safety.

There were many issues raised when this became adopted as an industry/sport standard. These included the industry suggesting they had been given little opportunity to contribute, and some of the test methods needing improvement and updating.

The team went on to detail specific research testing programmes, aimed at an overall review of the 1997 handbook. The key aspects of the review and the stages of the programme were set out (see the detailed presentation).

Many issues were presented for discussion, such as identifying key properties, setting of minimum levels, constructor constraints, mechanical test validity/accuracy/reliability etc.

The ITF's strategy was shown, with simple guidance in tabular form to show the changes made to the contents of the handbook, regarding individual requirements and whether they would be updated or deleted.

Court pace, impact behaviour and player perception studies were presented.

Issues yet to be dealt with were highlighted as:

- Industry feedback
- (re) define surface pace
- Surface elasticity tests
- Static friction tests
- Durability limits
- Climate sensitivity
- Perception – role and reliability



Questions were then fielded by the team. The audience were involved in lively discussion of the ITF philosophy, and also specifics on testing methodologies for infiltration for example, lower limb injury studies, and problems relating to overcomplicating site based performance tests.

In addition, several short presentations were made to contribute to the discussion area, notably by Dr Colin Young who presented a novel device to evaluate the stiffness of sports surfaces called the light weight deflectometer or LWD, see full presentation at [www.sportsurf.org/workshop2.php](http://www.sportsurf.org/workshop2.php).

At the end of the morning, Dr Fleming attempted to summarise the outcomes, with the following key points:

#### **MORNING SESSION FEEDBACK**

- ITF guidance under review, classification & tests
- Performance requirements well understood.
- Need for greater interaction between National governing bodies/international governing bodies and research/practice to help develop guidance and suitable test methods.
- Durability – important, but as yet little ‘research’ knowledge/information is available.
- Player feedback on surface hardness/grip not yet done – would be useful.
- Guidance from ITF adopted as a ‘standard’. Appropriate?
- Guidance designed for top end of sport, elite level play – suitability for community level (testing, costs etc).

#### **KEY NOTE PRESENTATION 2: DR ERIC HARRISON FIFA & IRB CONSULTANT**

Dr Harrison presented the evolution of the FIFA Quality Concept. He gave an overview of the background to the sports turf industry with regard to the ‘generation’ of pitches from the initial poor performing hard surfaces of the 1970s through to the long-pile infill, known as 3<sup>rd</sup> generation (3G), of the last several years.

He gave an account behind the philosophy of the testing regimes implemented under FIFA, in essence for artificial surfaces to recreate the playing performance of good quality natural turf.

He presented data from the player feedback, mechanical test ranges, and injury studies to support the current guidance tests and performance limits.



The detailed presentation (plus the latest medical data) is available from the SportSURF website at [www.sportsurf.org/workshop2.php](http://www.sportsurf.org/workshop2.php).

There were many questions raised by the audience, and a lively session followed with particular emphasis on pitch longevity and maintenance, the complexity of the testing regime and the need for long-term health studies of users at community level.

In addition, several short presentations were made to contribute to the discussion area, notably by Dr Iain James on 'Is natural turf a suitable benchmark for artificial turf?' and Dr Matt Carre on the a method to evaluate tractions and the important role modelling can play in helping us to understand sports surface behaviour.

At the end of the day, Dr Fleming attempted to summarise the outcomes of the afternoon forum, with the following bullet points:

#### **AFTERNOON SESSION FEEDBACK**

- Natural turf is a suitable benchmark....?
- Player feedback has adjusted initial FIFA quality concept performance limits.
- Medical studies...no difference between artificial and natural turf.
- QA & Maintenance is the key. What is best practice...is it known and used? Are pitches tested enough?
- Community study needed regarding the health effects?
- Boot – stud configurations and bladed boots especially with regards to traction/injury on artificial surfaces.
- Water is often added to improve playing performance by reducing abrasion and increasing speed.
- Interaction mechanics understood – linked to injuries?

IF YOU HAVE ANY QUESTIONS ABOUT THE SPORTSURF NETWORK OR WOULD LIKE TO BECOME INVLOVED PLEASE CONTACT DR COLIN YOUNG OR VISIT OUR WEBSITE.

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