

Welcome and Introduction

Dr Sharon Dixon
(Network Core Member)

&

Dr Paul Fleming
(Network Manager)

SportSURF 3rd Workshop
22nd November 2006

Sport Surfaces Research Forum



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Supported by:

EPSRC

Network Introduction

EPSRC Funded, awarded May 2005, for 3 years

Emerged from an EPSRC initiative 'Thinking About Sport' in December 2003

Self sufficient after 3 years....

Core members developed the proposal, supported by many organisations/parties

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Network Objectives

The specific objectives are:

- to create a new interdisciplinary 'surfaces' community
- to host stimulating meetings/workshops open to all plus a new specific conference (Sept. 2007)
- to transfer ideas, techniques, models and technology between researchers and practitioners
- to produce multidisciplinary research proposals
- to disseminate the network outcomes widely via the web, publications, press releases.....

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Membership Update

Open to all individuals/organisations..

Approximately 40/60 Split (Academic/Non-Academic), total membership is now over 120

Current organisations members include:

FA, FF, RFU, E HOCKEY, FIH, IOG, SPORT ENGLAND, NPFA, BOA, EIS, SAPCA, STRI & many others....

Worldwide membership including USA, Argentina, Canada, Australia, New Zealand and several European countries (Spain, Belgium, France, Italy, Switzerland)

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Previous Workshops

Workshop 1 (November) 2005

Series of presentations on current knowledge..
Breakout sessions to discuss user/surface, testing, & innovation

Workshop 2 (April 2006)

“Quantify the ‘Performance Requirements’ of Sports Surfaces”

What are these requirements?

How has current guidance been derived?

Current research and future needs?

- Presentations from the ITF and FIFA Consultant



The Day

Focus: 'Player – Surface Interactions'

Welcome pack – SportSURF information flyer, delegate list, agenda and a feedback/question form...please take the time to fill out the feedback form, thanks.

Audience Interaction....

Programme

10:45 Introduction & Welcome *Dr Paul Fleming (Network Manager)*
Dr Sharon Dixon (Core Member & Host)

Session 1 – 11:00 to 13:15 – Keynote Presentation

11:00 Dr Darren Stefanyshyn (Calgary University)
• Player Surface Interactions: Injury and Performance

12:00 Coffee break

12:15 Q & A Session with Dr Stefanyshyn

Lunch 13:15 to 14:15

Session 2 – 14:15 to 15:30 – Open Presentations

14:15 – 14:30 Daniela Strauss (University of Leeds)
• Player Interactions on Tennis Surfaces

14:30 – 14:45 Rudy Verhelst (University of Gent)
• Ground reaction force – drop jumps on artificial turf

14:45 – 15:00 Dr Kenneth Maijer (Universiteit Maastricht)
• The Biomechanics of Running on Artificial Turf

15:00 – 15:30 Dr Sharon Dixon & Dr Vicky Stiles (University of Exeter)
• Biomechanical and Engineering Approaches to Sports Surface Testing

15:30 Coffee break

Session 3 – 15:45 to 16:15 – General Discussion

16:30 Closing Remarks

Key Note Speaker

Dr Darren Stefanyshyn

“Player Surface Interactions:
Injury and Performance”

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Q & A Session



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Lunch & Networking



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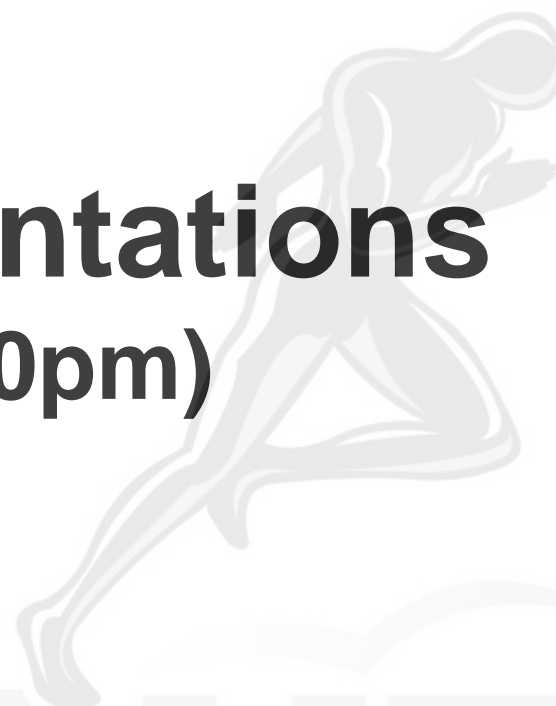
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'Open' Presentations (2.15 to 3.30pm)



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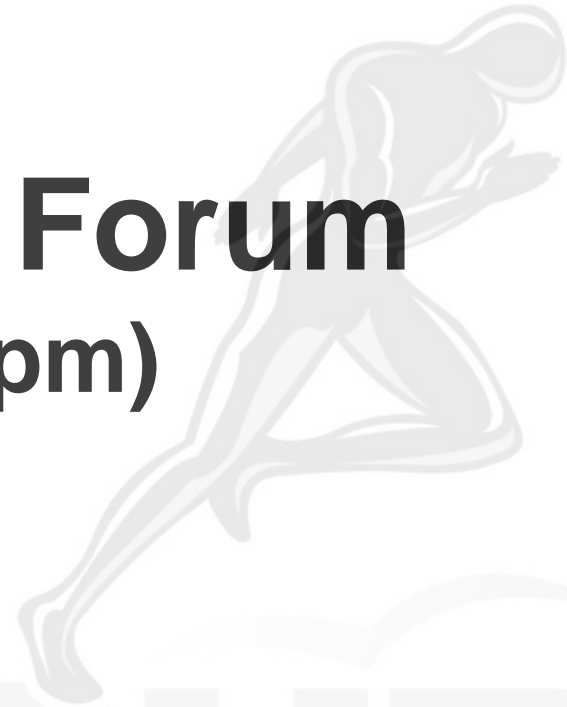


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Discussion Forum

(3.45-4.15pm)



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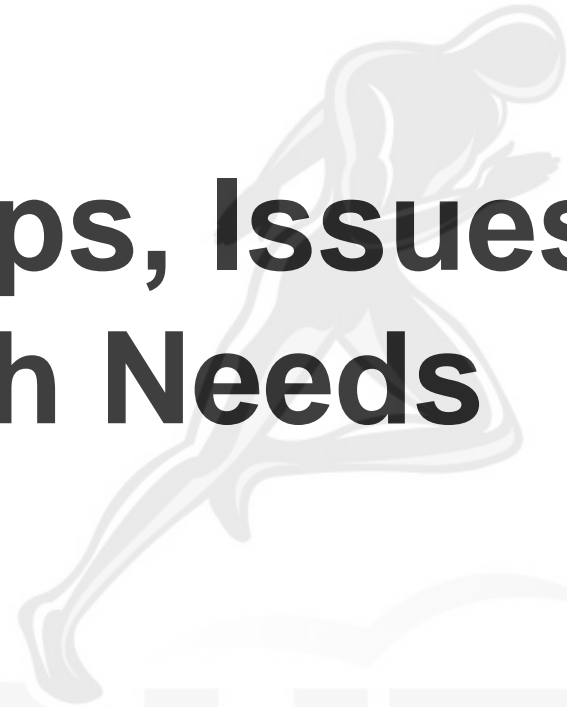
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Knowledge Gaps, Issues and Research Needs



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Gaps/Issues/Research Needs 1

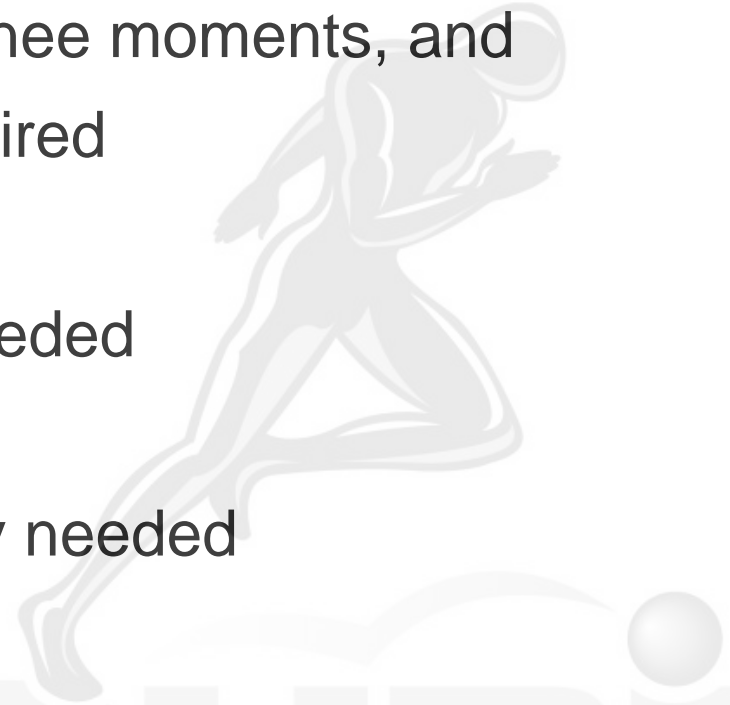
- Lack of comprehensive injury studies..
- Body measurements can be related to injury
- Biomechanical measurements are showing deficiencies in mechanical tests.
- New tests are needed, more player/shoe/surface oriented – appropriate loading/activity conditions
- Many variables, and biomechanical experimental programmes are relatively complex and need to normalise in some way?

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Gaps/Issues/Research Needs 2

- Load rate, peak pressures, knee moments, and whole system modelling required
- Interdisciplinary approach needed
- Extensive injury related study needed (prospective?)



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Closing Remarks

- What happens after today? Keep in contact!
- Future workshops (we want your input!)
- Conference September 2007
 - **Abstracts due Nov 30th!!**
- Web info, newsletter
- Constructive feedback on today and for future sessions please.....
- Future collaborations.....

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Launch Feedback

Key Points (Presentations)

Build quality can and does affect surface performance

Users perception can be matched to some play performance tests (impact and rotational torque was good, slip and ball roll poor)

Ball/surface impact modelling – possible & useful

Player-surface – multifactorial, combined tests.

Medical/Injury – Little or no significant difference between artificial grass and natural grass.

However, cause of injuries not always clear – more research required.

Age/wear related data is missing...



Launch Feedback (2005)

Key Points (break out sessions)

- **SUSTAINABILITY WATER + INFILL (Health)**
- **ENGINEERING FOR INCREASED PARTICIPATION**
- **SHOE SURFACE INTERACTION - SHOE DESIGN**
- **SURFACE PROPERTIES + INJURY**
- **DO WE CHANGE SURFACE OR THE GAME?**
- **LONG-TERM INJURY DATA REQUIRED**

Launch - Research Needs?

Play performance (pitches) – is natural turf the appropriate benchmark?

Player safety – is there merit in designing to reduce risk? Can we quantify risks (injury)? (Level of play/ability a consideration?)

Surface Design – are the materials and interactions understood? Can the designs be ‘optimised’?

Longevity – is there a need for more cost effective solutions, that may compromise any of the

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above?



2nd W-Shop Feedback – AM Session

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



2nd W-Shop Feedback – PM Session

Natural turf is a suitable benchmark....?

Player feedback has adjusted initial FIFA PP 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 re health effects?

Issues?

Boot – stud configurations.....

Water required to be added for abrasion and speed..

Interaction Mechanics understood – linked to injuries?



Free



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