

Science and Racket Sports ***past, present and future***

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6th World Congress of Racket Sport Science





Liverpool

London







Science and Racket Sports

Edited by

T. Reilly, M. Hughes and A. Lees



E & FN SPON
An Imprint of Chapman & Hall

1993

Science and Racket Sports

- **origins of S&RS**
- **past achievements**
- **present status**
- **future prospects**

6th World Congress of Racket Sport Science



UNESCO

United Nations Educational, Scientific and Cultural Organisation



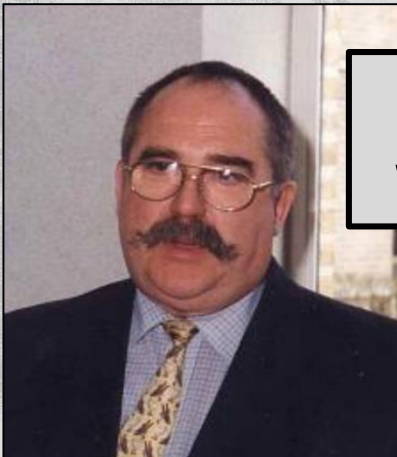
ICSSPE

International Council of Sports Science and Physical Education



WCSS

World Commission for Sports Science



origins



AIMS

To bring together scientists and practitioners whose interests lay in specific sports and the current scientific information on those sports

WCSS

To ensure that the scientific findings presented at each gathering were made widely available and easily disseminated to both scientist and practitioner

origins

WCSS

World Commission for Sports Science

swimming

football

origins

WCSS

World Commission for Sports Science

swimming

cycling

football

golf

**winter
sports**

soccer

origins

WCSS

World Commission for Sports Science

swimming

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football

**winter
sports**

golf

soccer

**racket
sports**

origins

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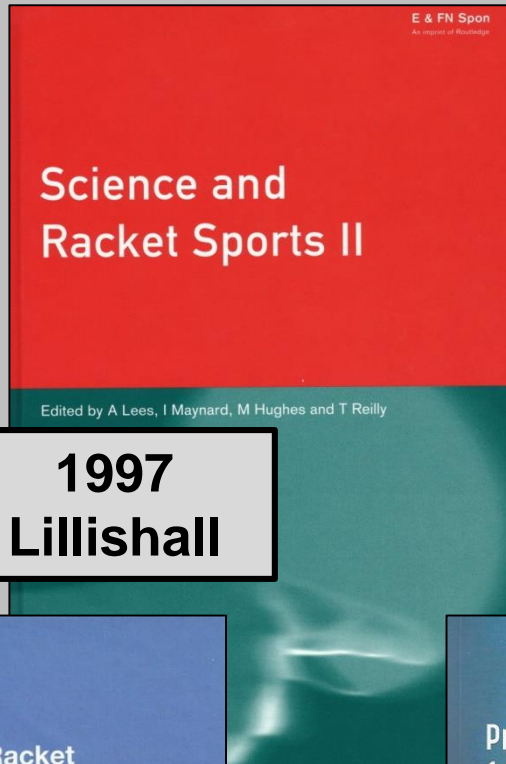


 **E & FN Spon**
An imprint of Chapman & Hall

Science and Racket Sports II

Edited by A Lees, I Maynard, M Hughes and T Reilly

**1997
Lillishall**



E & FN Spon
An imprint of Routledge

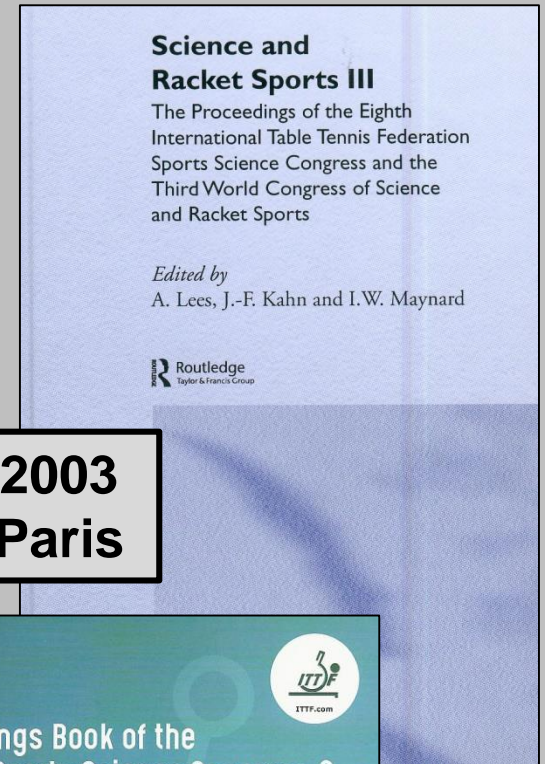
Science and Racket Sports III

The Proceedings of the Eighth
International Table Tennis Federation
Sports Science Congress and the
Third World Congress of Science
and Racket Sports

Edited by
A. Lees, J.-F. Kahn and I.W. Maynard

 **Routledge**
Taylor & Francis Group

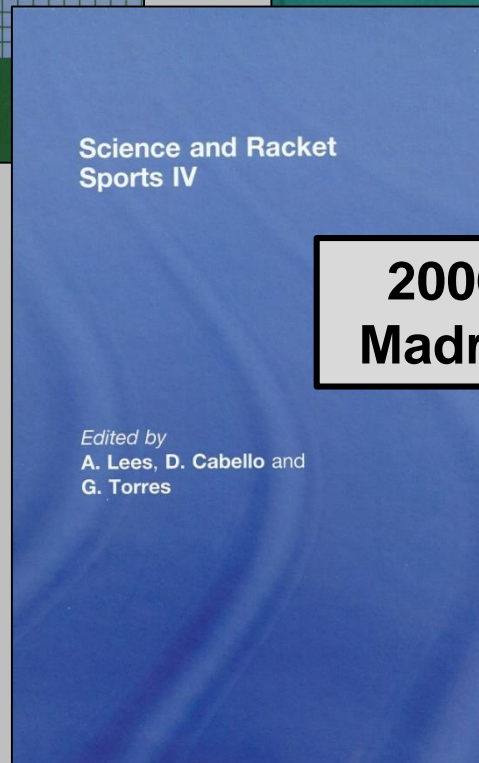
**2003
Paris**



Science and Racket Sports IV

Edited by
A. Lees, D. Cabello and
G. Torres

**2006
Madrid**

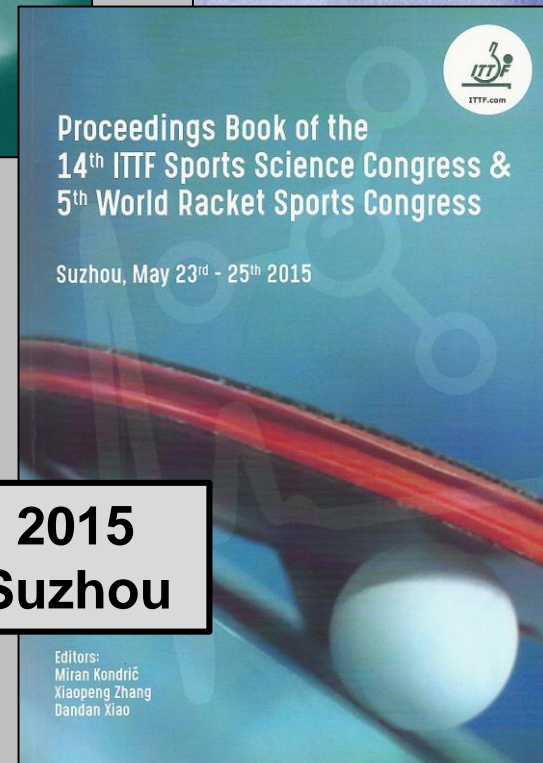


Proceedings Book of the 14th ITTF Sports Science Congress & 5th World Racket Sports Congress

Suzhou, May 23rd - 25th 2015

**2015
Suzhou**

Editors:
Miran Kondrić
Xiaopeng Zheng
Dandan Xiao



Science and Racket Sports



past achievements

Table 1. Past congresses

Congress	Date	Location	published papers
1	1993	Liverpool, UK	44
2	1997	Lillishall, UK	40
3	2003	Paris, France	44
4	2006	Madrid Spain	42
5	2015	Suzhou, China	31

past achievements

Table 2. Domicile of principle author of published papers

	Liverpool UK	Lillishall UK	Paris France	Madrid Spain	Suzhou China	TOTAL
Europe	30	34	36	39	17	156
Asia	8	2	6	5	14	35
N. America	3	3	2	0	0	8
Africa	3	0	0	0	0	3
S. America	0	1	0	0	0	1
Middle East	0	0	0	0	0	0

past achievements

Table 3. Sport focus of published papers

	Liverpool UK	Lillishall UK	Paris France	Madrid Spain	Suzhou China	TOTAL
Tennis	20	14	14	20	4	72
Table Tennis	0	9	18	5	19	51
Badminton	8	3	4	11	3	29
Squash	7	10	5	3	1	26
others	0	0	0	1	4	5

past achievements

Table 4. Scientific topics addresses by published papers

	Liverpool UK	Lillishall UK	Paris France	Madrid Spain	Suzhou China	TOTAL
physiology	15	14	10	13	8	60
performance analysis	5	11	13	9	11	49
psychology	7	10	7	5	0	29
biomechanics	5	3	6	3	4	21
medicine	6	1	4	4	3	18
equipment	5	1	4	0	2	12
sociology	0	0	0	6	1	7
coaching	1	0	0	2	2	5
TOTAL	44	40	44	42	31	

past achievements

Table 5. Physiology themes

	Liverpool UK	Lillishall UK	Paris France	Madrid Spain	Suzhou China	trend
Aerobic capacity e.g. direct, indirect from HR	9	5	2	3	2	↓
Heart Rate e.g. %max, recovery	8	5	9	3	5	↓
Biochemistry e.g. blood, plasma parameters, biopsy	4	2	1	2	0	↓
Hydration e.g. fluid intake, weight loss	3	3	2	3	0	↓
Training e.g. interventions	1	2	1	0	0	↓
Anaerobic capacity e.g. blood sample, Wingate test	9	4	1	5	5	→
Biometrics e.g. body fat, mass, composition	6	2	1	6	2	→
Diet e.g. nutrition, supplements	2	2	1	3	0	→
Performance e.g. sport related, speed agility tests	1	4	6	5	1	↑
Fitness e.g. speed, strength, power, flexibility	4	3	3	5	3	↑
Perceived exertion e.g. RPE, Borg scale	1	2	2	3	2	↑

past achievements

Science and Racket Sports



present status

25 years growth in:-


- **research and educational opportunities**
- **technological capability**
- **media coverage of racket sports**
- **participation across age, gender, ability and disability**
- **coach education and professionalization**

present status

BWF Research Grant programme

BWF Research Grant Topics	2014 (n=7)	2015 (n=5)	2016 (n=6)	2017 (n=5)
testing- fitness and agility	2		1	
training and performance	2		3	1
Physiology -fatigue	1			1
-nutrition/hydration	1			1
-health		1		
Biomechanics -muscle strength		1		
-technique	1	1		
psychology -anticipation			1	1
notational analysis			1	1
player development		2		

present status



BWF

Giving every child a chance
to play badminton

www.bwfshuttletime.com

SHUTTLE TIME

BWF Shuttle Tiime
Organisation



BWF

SHUTTLE TIME INDIA

BADMINTON PROGRAM FOR SCHOOLS

21st - 23rd February, 2017
THE NATIONAL SPORTS CLUB OF INDIA
Organised by Badminton Association Of India

YONEX **SUNRISE**



BWF

SHUTTLE TIME

Giving every child the chance
to play badminton

present status

Science and Racket Sports

A grayscale, textured image of a tennis player in mid-swing, overlaid with a grid pattern. The player is wearing a striped shirt and is captured in a dynamic pose, with the racket extended forward. The background is a dense, textured pattern of leaves or foliage.

future prospects

Science and Racket Sports in the future:-

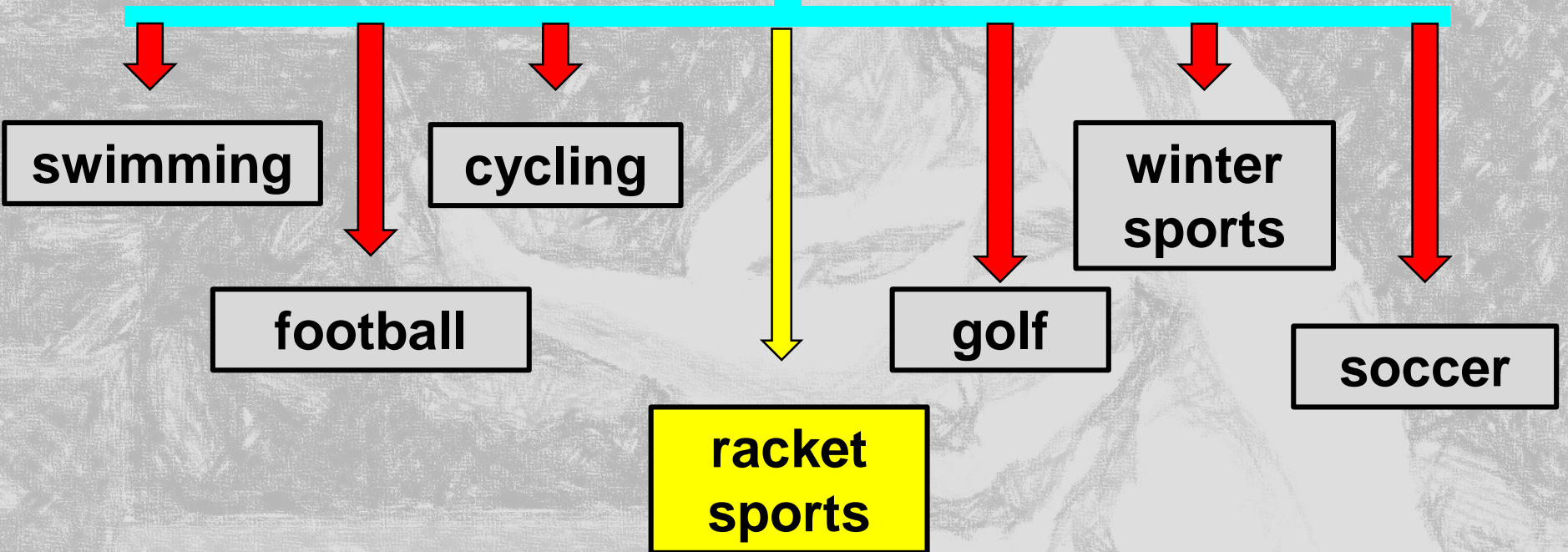
- 25 year legacy of research communications
- large and diverse research base
- International Federation supported research

....but....

future prospects

WCSS

World Commission for Sports Science



future prospects

options for the future:-

- **Science and Racket Sports Steering Group**
- **Membership Society**
- **World Commission for Science and Racket Sports**

future prospects



thank you

6th World Congress of Racket Sport Science



