THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS
Second International Conference on
Mathematics in Sport, IMASport 2009
Programme

WEDNESDAY 17th June 2009

From 1500	Registration in the **Hall** of the University of Groningen Academy Building
1700-1900	Opening Reception in **Bruins zaal** of the University of Groningen Academy Building

THURSDAY 18th June 2009

Time		
0840-0850	Opening remarks	
0850-0930	Session Chair: Ruud Koning **Keynote** Jim Albert, *Bowling Green State University, USA* Exploring PITCH F/X Data	
0930-1030	Session Chair: David Percy **Sports Methodologies**	Session Chair: Dries Goossens **Sports Scheduling 1**
	Anthony Kay *Loughborough University, UK* Orienteering route choice in hilly terrain: optimisation by calculus of variations	Mike Wright *Lancaster University Management School, UK* Three types of cricket umpire scheduling
	Joanne Moffatt *University of Salford, UK* An analysis of strategy in the sprint race in track cycling	Sebastián Urrutia *Universidade Federal de Minas Gerais, Brazil* Scheduling the Brazilian soccer tournament by integer programming maximising audience shares under fairness constraints
		Alireza Tajbakhsh *Sharif University of Technology, Iran* A hybrid PSO-SA Algorithm for the travelling tournament problem
1030-1100	Refreshments	
1100-1220	Session Chair: Mike Wright **Sports Scheduling 2**	Session Chair: Anthony Bedford **Analysing Sports Results**
	Kimmo Nurmi *Satakunta University of Applied Sciences, Finland* Improving the schedule of the Finnish Major Ice Hockey League	Gordon Hunter *Kingston University, UK* Can Markov models accurately simulate lawn tennis rallies?
	Markus Triska *Technische Universität Wien* Local search for group-changing single round robin tournaments	Sohail Akhtar *University of Salford, UK* An analysis of declaration strategy in the first three innings in test cricket
	Dries R. Goossens *K.U.Leuven, Belgium* On the existence of the carry-over effect	Ian McHale *University of Salford, UK* Assessing the fairness of the golf handicapping system in the UK
	Bjorn Raupach *KaHo Sint-Lieven, Belgium* A coupled simulated annealing approach to the travelling tournament problem	Christoph Leitner *Wirtschaftsuniversitat Wien, Austria* Forecasting the winner of the UEFA Champions League 2008/09
1220-1320	Lunch	
1320-1400	Session Chair: Stephen Clarke **Keynote** Gerard Sierksma, *University of Groningen, Netherlands* Talent Development and Computer Support in Soccer	
1400-1520	Session Chair: Paul Newton **Sports Modelling 1**	Session Chair: Dimitris Karlis **Sports Strategies**
	Anthony Bedford	Qingxia Kong

	RMIT University, Australia Risk taking in badminton to optimise in-the-run performance	*National University of Singapore* Benford's law and number selection in fixed-odds numbers games
	Petr Volf *Academy of Sciences of the Czech Republic* A stochastic model of process of athletic records	James Reade *University of Oxford, UK* Prediction markets vs. econometric forecasting for sports: Evaluating and explaining performance
	Benoit Jottreau *University Paris-Est, France* How do markets play soccer?	Nobuyoshi Hirotsu *Juntendo University, Japan* Reconsideration of the best batting order: Is the order that maximises the expected number of runs really the best?
	Stefan Kesenne *Universiteit Antwerpen* The optimal size of a sports league	Tania Churchill *University of Canberra, Australia* Correlation of training load and heart rate variability indices in elite cyclists
1520-1535	Refreshments	
1535-1655	Session Chair: Ray Setefani **Understanding Who Won**	Session Chair: Jim Albert **Sports Modelling 2**
	Liam J.A. Lenten *La Trobe University, Australia* Do unbalanced schedules cause distortions in sports league tables?	Dimitris Karlis *Athens University of Economics, Greece* Robust fitting of soccer prediction models
	Niven Winchester *University of Otago, New Zealand* An Innovative Approach to National Football League Standings Using Optimal Bonus Points	Sandrine Poupaux *Deutsche Sporthochschule Köln, Germany* Some reflections about how to predict the number of medals won by a country at the summer Olympic Games
	Jack Dowie *London School of Hygiene and Tropical Medicine, UK* The scoring of combined events infringes a key principle of sporting competitions	David F. Percy *University of Salford, UK* Interactive Shrinkage Methods for Class Handicapping
	A. Larry Wright *Columbia University, USA* Detecting Streakiness in Sports	Douglas Fearing *MIT, USA* How to Catch a Tiger: Understanding Golfer Performance on the PGA Tour
1800	Departure for Conference Dinner	

FRIDAY 19th June 2009

0900-1020	Session Chair: Liam Lenten **Understanding How to Win**	Session Chair: João Carlos Soares de Mello **Performance Evaluation in Sports**
	Raymond Stefani *California State University, Long Beach* The Case Against Ultimate Athletic Performance	Eliane Goncalves Gomes *Brazilian Agricultural Research Corporation* Two Stage Models to Assess the Significance of Contextual Variables on the Efficiency of Olympic Games Winning Countries
	John Norman *Sheffield University Management School, UK* Variants of Naismith's Rule	João Carlos Soares de Mello *Federal Fluminense University, Brazil* 2008 Beijing Olympic Games: Evaluation of Teams' Performance
	Stephen R. Clarke *Swinburne University of Technology, Australia* Using team doubles competition results to rate non-elite tennis players	Lidia Angulo-Meza *Federal Fluminense University, Brazil* An approach for Ranking Countries based on Data Envelopment Analysis with multiple inputs and outputs: The Pan-American Games
	Paul K. Newton *University of Southern California, USA* A stochastic approach to ranking tennis players	João Carlos Soares de Mello *Universidade Federal Fluminense, Brazil* Classification of the teams in the 2008 Brazilian Soccer Championship
1020-1040	Refreshments	

1040-1200	Session Chair: Franc Klaassen **Tennis**	Session Chair: Douglas Fearing **Sports Modelling 3**
	Jan R. Magnus *Tilburg University, Netherlands* Real-time forecasting of the winner of a tennis match	Ester Gutiérrez & Sebastián Lozano *University of Seville, Spain* A Study of the Duration of Olympic Records using Survival Analysis of Recurrent Events
	Ruud H. Koning *University of Groningen, Netherlands* Home Advantage in Professional Tennis	James Reade *University of Oxford, UK* Revisiting the *Calciopoli* Italian Soccer Corruption Scandal
	Paul K. Newton *University of Southern California, USA* A Monte Carlo approach to simulating a tennis tournament	Alun Owen *Coventry University, UK* Dynamic Bayesian Forecasting Models of Football Match Outcomes
		Ken Taylor *University College Dublin, Ireland* A statistical test to detect tampering with lottery results
1200-1240	Session Chair: Phil Scarf **Keynote** Tony Lewis, *Oxford Brookes University, UK* Experiences selling mathematics to the cricketing world: market penetration of the Duckworth-Lewis method	
1240-1340	Lunch	
1340-1520	Session Chair: A. Larry Wright **Sports Modelling 4**	Session Chair: Ian McHale **Sports Policymaking**
	Leanne Streja *UCLA School of Public Health, USA* Models for Motorcycle Grand Prix Racing Times	Tom De Schryver & Rob Eisinga *Radboud Universiteit Nijmegan/Vrije Universiteit Amsterdam, Netherlands* The application of piecewise linear models to management turnover decisions in Dutch soccer clubs
	Phil Scarf *University of Salford, UK* Route choice in orienteering and Naismith's rule: age effects and isochronic hills	Muhammad Mat Yusof *University of Salford, UK* Modelling the Effect of Seeding Policy in Tournament Design
	Anthony Bedford *RMIT University, Australia* Exploiting in-the-run Betting Markets in Australian Rules Football using a Brownian Motion Model	Orest V. Iftime *University of Groningen, Netherlands* Team ranking in volleyball competitions
	Ron Dorsey *Hartpury College, University of the West of England, UK* The Relative Age Effect in English Test Cricket	F.H. Dadashov *National Academy of Aviation, Azerbaijan* To optimization of psychophysiological conditions of sportsman in a consulting program
1520-1530	Closing Remarks	
1530-1545	Refreshments	
1545	Departure for optional tour of the FC Groningen stadium; 1600-1700 guided tour	