MathSport International 2017 – Program

SUNDAY JUNE 25th Afternoon

SUN 17:00-19:00 – Registration

SUN 19:00-21:00 – Welcome Spritz

MONDAY JUNE 26th Morning

MON 8:30-9:00 – Registration

MON 9:00-9:30 – Opening Session

MON 9:30-10:30 – Plenary Session (Chair: M. Ferrante)
Michael A. Trick
Twelve Years of Scheduling Major League Baseball Teams and Umpires

MON 10:30-11:00 – Coffee Break

MON 11:00-12:30
SESSION 1-A: Modelling and simulation (Chair: G. Fonseca)
Karl Jackson
Using Player Quality And Injury Profiles To Simulate Results In Australian Football

Chris Frankland and Gordon Hunter
A Statistical Investigation of Factors Influencing the Results of One-Day Internationals in Cricket

Ankit Patel, Paul Bracewell and Jason Wells
Real time measurement of individual influence in T20 cricket

Muhammad Asif and Ian McHale
Estimating Margin of Victory in Twenty-20 International Cricket

SESSION 1-B: Prediction (Chair: L. De Giovanni)
Graeme Ward and Stephanie Kovalchik
Choosing a playing schedule in professional men's tennis

Chiara Liti, Veronica Piccialli and Marco Sciandrone
Predicting soccer match outcome using machine learning algorithms

Alun Owen
The Application of Hurdle Models to Accurately Model 0-0 Draws in Predictive Models of Football Match Outcomes

MON 12:30-14:00 – Lunch

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MONDAY JUNE 26ᵗʰ Afternoon

MON 14:00-15:00 – Plenary Session (Chair: D. Goossens)
Fabrizio Renzi
Innovative usage of cognitive solutions and analytics for Sport

MON 15:00-16:00
SESSION 2-A: Analysis of Play (Chair: F. Spieksma)
Sumit Sarkar
Paradox of Crosses in Football (Soccer) – A Game-Theoretic Explanation

David Perdomo Meza
Flow Network Motifs Applied to Soccer Passing Data

Ruud Koning and Lara van Steen
Red cards: (mis)carriage of justice?

SESSION 2-B: Tournaments and Scheduling (Chair: P. Zuccolotto)
Jörn Schönberger
The Championship Timetabling Problem - Construction and Justification of Test Cases

Dries Goossens, Jari Kyngäs, Kimmo Nurmi and Nico Kyngäs
Scheduling the Australian Football League

Julien Guyon
What a fairer 24 team UEFA Euro could look like

MON 16:00-16:30 – Coffee Break

MON 17:00 – Guided Tour to Palazzo Bo – University Of Padua

MON 19:30 – Social Event

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TUESDAY JUNE 27th Morning

TUE 9:00-10:00 – Plenary Session (Chair: R. Stefani)
Gerhard Tutz
Explaining Success in Sports Competitions: Paired Comparison Methods with Explanatory Variables

TUE 10:00-11:00
SESSION 3-A: Data analysis and fitness (Chair: F. Lisi)
Denny Meyer, Samuel Muir, Madawa Weerasinghe, David Ho and Olivia Sackett
Evaluation of a corporate physical activity program to foster well-being using mixed methods

Francesco Lisi and Francesco Matteazzi
A follow-up study of the issue of iid points in tennis

Mariusz Klimczyk
Determination of sport results based on special fitness of pole vaulters ages 12 and 17

SESSION 3-B: Performance and data analysis (Chair: S. Kovalchik)
Tony Syme
The Nappy Factor in Golf: The Effect of Children upon the Sporting Performance of Professional Golfers

Kelly Marshall
The effect of leadership on AFL team performance

Maria Angonese, Franco Cardin and Paolo Ferrandi
Performance evaluation of volleyball serve using dynamical models of flight trajectory.

TUE 11:00-11:30 – Coffee Break

TUE 11:30-12:30
SESSION 4-A: Performance and data analysis (Chair: L. Salmaso)
Uday Damodaran, Suma Damodaran and Ritwick Chowdhuri
Value Added As A Measure For Analyzing Batting Performance In Odi Cricket

Dimitris Karlis, Ioannis Ntzoufras and Vasileios Manasis
On the stochastic nature of indices of competitive balance

Daniel Mon and Arturo Díaz
Which one has more influence in female air pistol performance: experience or training?

SESSION 4-B: Strategy (Chair: P. Vidoni)
Susanne Hoffmeister and Jörg Rambau
Strategy optimization in beach-volleyball -- applying a two scale approach to the olympic games

Matthieu Guillot and Gautier Stauffer
Optimizing a Golfer's strategy with MDPs

Daniele Arosio, Paolo G. Ferrandi and Pietro Mariani
Real time forecast of volleyball offensive strategy using machine learning techniques

TUE 12:30-14:00 – Lunch

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TUESDAY JUNE 27th Afternoon

TUE 14:00-15:30

SESSION 5-A: Modelling and simulation (Chair: P. Scarf)
   Stephanie Kovalchik and Martin Ingram
   Estimating the Duration of Professional Tennis Matches with Varying Formats

   Paolo Vidoni and Claudio Casella
   Formula 1 lap time modeling using generalized additive models

   Luca Parolini, Francesco Bortolon, Lorenzo Schiavon and Cristian Castiglione
   A Markovian approach to Darts

   Marco Ferrante, Giovanni Fonseca and Silvia Pontarollo
   How long does a tennis game last?

SESSION 5-B: Rules and Fairness (Chair: F. Spieksma)
   Ray Stefani
   What Performance Data Tells Us about PEDs in Olympic Athletics and Swimming

   Yigal Gerchak and Eugene Khmielnitsky
   On Reducing Sequence Effects in Competitions

   Ksenia Andreeva
    Manager's capacity and limit on foreign players: what influences variation of players in the field?

TUE 15:30-16:00 – Coffee Break

TUE 16:00-17:00

SESSION 6-A: Analysis of play and scheduling (Chair: D. Goossens)
   Marica Manisera, Rodolfo Metulini and Paola Zuccolotto
   Sensor Analytics in Basketball

   John Obrien and Mark Fichman
   Optimal Shot Selection Strategies for the NBA

   Fabio Salassa and Federico Della Croce
   The Social Doubles Tournament Problem

SESSION 6-B: Betting (Chair: A. Owen)
   Oliver Hatfield, Jonathan Tawn, Christopher Kirkbride, Timothy Paulden, David Irons and Grace Stirling
   Detecting Match-Fixing in Tennis in In-Running Betting Markets

   Akash Adhikari, Rishabh Saraf and Rishikesh Parma
   Bowling Strategy building in limited over cricket Match: An application of Statistics

   Blanka Sediva
   Identification of Multivariate Outliers: A Study for Hockey and Football Data

TUE 17:30 – Guided Tour to the Botanical Garden – University of Padua

TUE 19:30 – Social Dinner

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WEDNESDAY JUNE 28th Morning

WED 9:00-10:30

SESSION 7-A: Ranking (Chair: G. Fonseca)

John Trono
Applying Occam's Razor to the Prediction of the Final NCAA Men's Basketball Poll

Anne Pilkington and Paul Coletti
A comparison of the Performance of Google PageRank to other Ranking Systems on the NCAA Basketball Tournament

Laszlo Csato
An impossibility result for sport rankings

Anna Eleonora Carrozzo, Rosa Arboretti and Luigi Salmaso
Ranking ski courses using permutation methods for multivariate populations

SESSION 7-B: Modelling and simulation (Chair: G. Tutz)

Michael de Lorenzo, Stella Stylianou, Ian Grundy and Bradley O'Bree
Draw importance in football

Lars Magnus Hvattum and Olav Drivenes Sæbø
Modelling clubs' financial investment in association football players

Andreas Groll, Thomas Kneib, Andreas Mayr and Gunther Schauberger
On the Dependency of Soccer Scores - A Sparse Bivariate Poisson Model for the UEFA European Football Championship 2016

Patrice Marek and František Vávra
Home Team Advantage in English Premier League

WED 10:30-11:00 – Coffee Break

WED 11:00-12:30

SESSION 8-A: Tournaments and Scheduling (Chair: R. Koning)

Erik Lambrechts, Annette Ficker, Frits Spieksma and Dries Goossens
The Circle Method maximizes Carry-over

Stephan Westphal and Martin Dahmen
Avoidung combinatorial clashes for the Champions Hockey League Group Stage Draw

Reshma Chirayil Chandrasekharan, Túlio A. M. Toffolo and Tony Wauters
Analysis of a Constructive Matheuristics for the Traveling Umpire Problem

David Van Bulck, Dries Goossens and Frits Spieksma
Scheduling an Indoor Football League: a Tabu Search Based Approach

SESSION 8-B: Modelling and simulation (Chair: R. Stefani)

Takashi Toriumi
Compare the superiority of Japanese Collegiate Baseball Leagues

Gerçek Budak, Imdat Kara, Yusuf Tansel İç and Refail Kasimbeyli
Optimization of Harmony in Team Formation Problem for Sports Clubs: A real life volleyball team application

Phil Scarf and Rishikesh Parma
On competitive balance and scoring rates in international rugby union

Uwe Dick and Ulf Brefeld
Learning to Rate Player Actions on the Example of Soccer

WED 12:30-14:00 – Lunch

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WEDNESDAY JUNE 28th Afternoon

WED 14:00-15:00 – Plenary Session (Chair: P. Scarf)
Nicola Parolini
Mathematical models for sport: America's Cup, Olympic Rowing and more

WED 15:00-16:00
SESSION 9-A: Strategy (Chair: F. Lisi)
Tim Swartz
Tactics for T20 Cricket

Patrick Brown, Ankit Patel and Paul Bracewell
Optimising a Batting Order in Limited Overs Cricket using Survival Analysis

Dmitry Dagaev and Andrey Zubanov
Round-Robin Tournaments with Limited Resources

SESSION 9-B: Performance and data analysis (Chair: A. Owen)
Nobuyoshi Hirotsu, Keita Inoue and Masafumi Yoshimura
An analysis of characteristics of soccer teams using a Markov process model considering the location of the ball on the pitch

Andrea Artico, Mario Bolzan, Livio Corain and Luigi Salmaso
Dynamic Sport Performance Indicators with Application to Italian Basket League

Leonardo Egidi and Jonah Gabry
Bayesian hierarchical models for predicting individual performance in football (soccer)

WED 16:00-16:30 – Closing Session