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<tr>
<th>Time</th>
<th>Wednesday June 14th</th>
<th>Thursday June 15th</th>
<th>Friday June 16th</th>
<th>Saturday June 17th</th>
<th>Sunday June 18th</th>
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<td>Welcome Reception</td>
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<td>Registration</td>
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<td>Lunch</td>
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<td>Lunch &amp; Student Mentoring Program</td>
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<td>Pre-Conference Board Meeting</td>
<td>12:30-15:00</td>
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<td>Coffee Break</td>
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<td>Workshops</td>
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<td>Poster Session</td>
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<td>Coffee Break</td>
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<tr>
<td>Keynote Lecture</td>
<td>Hiroaki Hohara 16:45-17:30</td>
<td>Keynote Lecture 2 16:45-17:30</td>
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<td>Keynote Lecture 4 Gert-Peter Brüggemann 16:30-17:15</td>
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<td>Opening Ceremony</td>
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<td>Geoffrey Dyson Lecture</td>
<td>Walter Herzog 18:00</td>
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<td>Invited Speakers Session</td>
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<td>Sponsors Appreciation Night &amp; Student Night</td>
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<td>Lunch</td>
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<td>Lunch Boxes 13:55-14:30</td>
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<td>Lunch</td>
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<td>Social Tour</td>
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<td>Hans Gros Award</td>
<td>Pedro Morouço 14:15-15:00</td>
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<td>Closing Ceremony</td>
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<td>Post-Conference Board Meeting</td>
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<tr>
<td>Closing Banquet</td>
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Thursday, 15th

Oral Sessions 1: NIA 1
ID Location: Lecture Hall 1 | Chair: N. Smith, G. Irwin


9:34-9:47 15_O2 *Adjustment In The Flight Phase Of 1m Springboard Forward Pike Dives. Mohsen Sayyah; Maurice Yeadon; Michael J. Hiley; Mark A. King

09:48-10:01 15_O3 *Coordinative Variability In Forefoot Runners During An Exhaustive Run. Avelino Amado; Carl Jewell; Richard van Emmerik; Joseph Hamill

10:02-10:15 15_O4 Measuring Lower Limb Loading During Dynamic Sporting Actions: Reducing Errors From Soft Tissue Interference And Filtering. Bernhard Hohl; Mark Lake

10:16-10:29 15_O5 *Biomechanical Analysis Of The Start In Ski Cross And Snowboard Cross. Matthias Olvermann; Hannes Frühschütz; Maren Goll; Peter Spitzenpfeil; Andreas Huber

* = NIA finalist
Thursday, 15th  Oral Sessions 2: Change of Direction

ID  Location: Lecture Hall 2 | Chair: M. Lake, G. Weir


9:34-9:47  15_O7  Pelvic Obliquity And Rotation Influences Foot Position Estimates During Running And Sidestepping: “it’s All In The Hips”. Sean Byrne; Gillian Weir; Jacqueline Alderson; Brendan Lay; Cyril J Donnelly

09:48-10:01  15_O8  Rotation And Braking Strategies To Perform A Successful Cutting Maneuver. Sina David; Ralf Müller; Igor Komnik; Wolfgang Potthast

10:02-10:15  15_O9  A Kinematically Based Algorithm To Estimate The Energy Cost Of Variable-speed Shuttle Running. Matteo Zago; Manuela Galli; Susanna Rampichini; Eloisa Limonta; Fabio Esposito; Chiarella Sforza

10:16-10:29  15_O10  The Inter-laboratory Repeatability Of Unplanned Sidestepping Kinematics. Cyril J Donnelly; Gillian Weir; Chris John Jackson; Jacqueline Alderson; Raihana Sharir; Radin Rafeuddin; Jos Vanrenterghem; Mark A. Robinson
Thursday, 15th
Oral Session 3: Acrobatic Sports 1
ID Location: Lecture Hall 3 | Chair: G.-P. Brüggemann, M. Kinoshita

9:20-9:33 15_O11 Effect Of Stiffness Of Knee And Ankle Alignment On The Impact Loads During Landing In Gymnastic Floor Exercise. Wei-Ya Hao; Xiao-Fei Xiao; Cheng-Liang Wu; Xu-Hong Li; Yan-Tao Lou

9:34-9:47 15_O12 Using A Kinect Device To Evaluate Amplitude Of Horizontal Rotation On The Pommel Horse. Toshiyuki Fujihara

09:48-10:01 15_O13 Limit Cycle Representation Of The Gymnastics Longswing. Genevieve Williams; Domenico Vicinanza; Gareth Irwin; Karl M. Newell

10:02-10:15 15_O14 Elbow And Wrist Joint Loading In Gymnastics: Injury Risk In Round Off Technique Selection. Roman Farana; Gerda Strutzenberger; Timothy Exell; Jiri Skypala; Gareth Irwin

10:16-10:29 15_O15 The Parallel Bars Movements With Strain Of Bars. AW Suraj Chandana; Lv Wangang; Yi Mingnong; Wei Xubo
Thursday, 15th

Oral Sessions 4: NIA 2

ID Location: Lecture Hall 1 | Chair: N. Smith, G. Irwin

11:00-11:13 15_O22 *Longitudinal Manipulation Of The Kinematic Chain Using A Reducing Biofeedback Schedule.* Francis Mulloy; David R. Mullineaux; Gareth Irwin

11:14-11:27 15_O23 *Are Muscle Forces Relevant In The Age Related Rise Of Injuries In Adolescent Soccer Players?* Thomas Dupré; Kristian R. L. Mortensen; Filip Gertz Lysdal; Johannes Funken; Ralf Müller; Jan Mayer; Hartmut Krah; Wolfgang Potthast

11:28-11:41 15_O24 *Lower Extremity Coordination Variability During Anticipated And Unanticipated Sidestepping: Implications For Acl Injury Prevention.* Gillian Weir; Carl Jewell; Richard Van Emmerik; Joseph Hamill


11:56-12:09 15_O26 *The Differences In Rugby Place Kick Technique Between Successful And Less Successful Kickers.* Alexandra Atack; Grant Trewartha; Neil Bezodis

12:10-12:23 15_O27 *Evaluation Of Silhouette-based Markerless Tracking For Kinematics In Sport.* Hannes Frühschütz; Linda Becker; Philipp Russ; Peter Spitzenpfeil

* = NIA finalist
**Wednesday, 15th**

**Oral Sessions 5: Human Performance and Modelling**

**Location:** Lecture Hall 2 | **Chair:** N. Linthorne, W.-T. Tang

11:00-11:13 _15_O16_  **A Simple Method For Assessment Of Muscle Force, Velocity, And Power Producing Capacities From Functional Movement Tasks.**  
Dejan Suzovic; Milena Z. Zivkovic; Sasa Djuric; Ivan Cuk; Slobodan Jaric

11:14-11:27 _15_O17_  **Biomechanical Characteristics Related To Poling Propulsive Effectiveness In Cross-country V2 Skating Technique.**  
Veronica Bessone; Florian Paternoster; Maximilian Stangmeier; Michael Veith; Robert Schuster; Ansgar Schwirtz; Wolfgang Seiberl

11:28-11:41 _15_O18_  **Ice Hockey Players Produce A Unique Postural Sway Characteristic.**  
Mark Walsh; Eric Slattery; Joshua Haworth

11:42-11:55 _15_O19_  **Towards Real-time Feedback In High Performance Speed Skating.**  
Jeroen van der Eb; Willem Zandee; Timo van den Bogaard; Sjoerd Geraets; Dirk-Jan Veeger; Peter Beek

Josef Kröll; Julian Fritz; Hermann Schwameder

12:10-12:23 _15_O21_  **Biomechanics Of The Single-handed Dynamic Moves On Campus Board And Effect Of Rung Distance.**  
Arif Mithat Amca; Neal Smith
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<th>Time</th>
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<th>Authors</th>
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<tr>
<td>13:30-13:32</td>
<td>15_P1</td>
<td>*Modeling And Optimal Control Of Able-bodied And Unilateral Amputee Running.</td>
<td>Anna Lena Kleesattel; Debora Clever; Johannes Funken; Wolfgang Potthast; Katja Mombaur</td>
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<tr>
<td>13:36-13:38</td>
<td>15_P3</td>
<td>*The Throwing Performance And Trunk Kinematics Of Quarterbacks During A Football Throw While Wearing Rib Protector Garments.</td>
<td>Marika Walker; Kathy Simpson; Christine</td>
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<td>13:39-13:41</td>
<td>15_P4</td>
<td>*Kinematic Analysis Of A Tevised Eversion Ankle Sprain.</td>
<td>Francesca Wade; Kam-Ming Mok; Daniel T. P. Fong</td>
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<td>13:45-13:47</td>
<td>15_P6</td>
<td>*Matching Triceps Surae Muscle Strength And Tendon Stiffness Eliminates Age-related Differences In Drop-jump Performance.</td>
<td>Matthias König; Svenja Hemmers; Christopher McCrum; Gaspar Epro; Thijs Ackermans; Ulrich Hartmann; Kiros Karamanidis</td>
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<td>13:48-13:50</td>
<td>15_P7</td>
<td>*Ground Reaction Forces During The Golf Swing Using Different Golf Clubs In Female Golfers.</td>
<td>Tomoya Hirano; Yu Kashiwagi; Yuki Inoue; Yuji Kihara; Seiji Shimatani; Kazuo Funato; Michiyoshi Ae</td>
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<td>13:51-13:53</td>
<td>15_P8</td>
<td>*Establishing Evidence Of Reliability And Validity For The Use Of A Pneumatic Helmet Impact System.</td>
<td>Leigh Jeffries; Stephen Carlson; Carlos Zerpa; Eryk Przysucha; Paolo Sanzo</td>
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<td>13:57-13:59</td>
<td>15_P10</td>
<td>*Bobsleigh Start Interval Times And Three-dimensional Motion Analysis Of The Lower Limb Joints In Preparation For The 2018 Pyeongchang Winter Olympics.</td>
<td>Seungbumb Park; Kyungdeuk Lee; Daewoong Kim; Junghyeon Yoo; Jaemin Jung; Kyunghwan Park; Sungwon Park; Jinhoon Kim</td>
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<td>14:00-14:02</td>
<td>15_P11</td>
<td>*A Study On The Correlation Between The Foot Features And Gait Characteristics During Over-ground Walking.</td>
<td>Jinwook Kim; Kyung-Ryoul Mun; Seon Jong Choi Sungkuk Chun; Junggi Hong</td>
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* = NIA Finalist
Power Poster 2- Ball Games & Throwing

Vertical Jump Characteristics And Lower Limbs Muscular Contribution In Chileans Volleyball Players During The Countermovement Jump (cmj). Fabio Dal Bello; Enrique Navarro Cabello; Javier Rueda; Esteban Aedo Munoz

Use Of Accelerometers In Australian Football To Identify A Kick. Susanne Ellens; Stephanie Blair; James Peacock; Shannon Barnes; Kevin Ball

Estimation Of The Jump Height For The Volleyball Spike By A Mobile Imu Unit. Thomas Jaitner; Georg Ebker; Marcus Schmidt

The Effects Of Deep Squat “rom” On Baseball Throwing Dynamics Of Lower Extremities Of Position Players. Weihsuan Lin; Jungtang Kung; Shuwei Chen; Daniel Burgee; Wen Tzu Tang

The Biomechanical Analysis Of Load Characteristics During Discus Throws With Various Weight Implements. Kenichi Hirose; Kei Maeda; Yasutada Noguchi; Keigo Ohyama Byun

Relationship Between The Ball Velocity And Upper Extremity Kinematics During An Overarm Throwing Self-practice Program. Gizem Ozkaya; Mi Sun Kim; Hye Ree Kim; Seong Jun Kim; Ki Kwang Lee

The Role Of The Internal Rotation Of The Upper Arm In Javelin Throwing. Hans-Peter Köhler; Frank Lehmann; Maren Witt

Kinematics Analysis Of The Upper Extremity During The Two-handed Backhand Drive Volley For Female Tennis Players. Mu-Lin Tai; Chun-Ju Yang; Kai-Lung Chang; Yi-Chun Lin; Wen-Tzu Tang

Influence Of The Ball Speed On The Displacement Of The Center Of Gravity During Baseball Batting Motion. Takahito Tago; Kenichi Kaneko; Daisuke Tsuchioka; Nobuko Ishii; Tadashi Wada

Wrist-elbow Coordination In Technique Selection: Influence Of Hand Position During The Back Handspring. Sophie Burton; Laurie Needham; Timothy Exell; Roman Farana; Gareth Irwin

Weight Transfer Changes During Golf Shots From Different Lies. Glen Martin Blenkinsop; Nicholas J. Gallimore; Michael Hiley
Thursday, 15th

ID Location: Lecture Hall 4 | Chair: H. Bayne

13:30-13:32 15_P25 Markerless Motion Capture Within Sport: An Exploratory Case Study. L. Needham; Michael Long; Gareth Irwin


13:36-13:38 15_P27 3D Reconstruction Accuracy Of Two Moving Motion Analysis Systems: Preliminary Results. Gustavo Ramos Dalla Bernardina; Isabella M. Rodrigues; Heber T. Pinto; Tony Monnet; Pietro Cerveri; Amanda P. Silvatti


13:42-13:44 15_P30 A Study On The Representative Point Of Horse’s Center Of Gravity. Shuping Li; Qiangqiang Dong; Yang Yu; Lin Li; Jiang Tao

13:45-13:47 15_P31 Lower Limb Muscle Lengths In Rowing: A Preliminary Study. Maeva Retailleau; Mathieu Domalain; Mathieu Menard; Floren Colloud

13:48-13:50 15_P32 Muscle Contributions To Body Mass Center Velocity During Vertical And Forward Jumping. Yuta Suzuki; Yasuto Kobayashi; Munenori Murata; Megumi Takizawa

13:51-13:53 15_P33 Modeling A Springboard In Gymnastics. Thomas Lehmann; Axel Schleicherdt; Falk Naundorf; Klaus Knoll

13:54-13:56 15_P34 A Musculoskeletal Modeling Approach Of Iliotibial Band Syndrome In Cycling. Implications For Injury Prevention. Mathieu Menard; Mathieu Domalain; Patrick Lacouture

13:57-13:59 15_P35 Validation Of The Photoelectric Optogait System To Measure Race Walking Biomechanical Parameters On A Treadmill. Daniel Álvarez de la Cruz; Andres Sebastian; Laura Pellitero; Ventura Ferrer-Roca

14:00-14:02 15_P36 Wireless Insoles To Measure Ground Reaction Forces: Step-by-step Validity In Hopping, Walking, And Running. Geoffrey Burns; Jessica Deneweth Zendler; Ronald F. Zernicke

14:03-14:05 15_P37 A New Method For Measuring Kinetics And Kinematics In Field Resisted Running: Comparison To Laboratory Tethered Running. Filipe Antonio Barros Sousa; Claudio Alexandre Gobatto
Thursday, 15th

Oral Sessions 6: Tennis/ Racket Sports 1

Location: Lecture Hall 1 | Chair: B. Elliott, A. Veloso

ID

**Influence Of The Laboratory Context And The Size Of The Markers Set On The Tennis Serve Evaluation.** Francois Tubez; Bénédicte Forthomme; Jean-Louis Croisier; Vincent Denoel; Olivier Brüls; Julien Paulus; Cédric Schwartz

14:50-15:03  15_O28

**How Do Tennis Players Control Their Balance During The Serve?**

15:04-15:17  15_O29 Parunchaya Jamkrajang; Mark A. Robinson; Weerawat Limroongreungrat; Jos Vanrenterghem

15:18-15:31  15_O30 **Kinematics Of Shoulder Joints During Tennis Serve In Young Female Athletes: Influence Of History Of Shoulder Pain.** Benoit Gillet; Mickael Begon; Christian Berger-Vachon; Isabelle Rogowski

15:32-15:45  15_O31 **The Shoulder Alignment As An Estimate Of The Angular Momentum In Tennis Ground Strokes - A Kinematic Analysis From A Bird’s Eye View.** Steffen Hannapel; Nils Eckardt; Sebastian Fischer; Armin Kibele

15:46-15:59  15_O32 **Kinematics Of The Hand And Key Rotation In A Tennis Forehand Drive Of Tennis Players.** Bruno Pedro; Filipa Joao; Jerusa P. R. Lara; António P. Veloso
Thursday, 15th

Oral Sessions 7: Acrobatic Sports 2
ID Location: Lecture Hall 4 | Chair: R. Farana, G. Williams

14:50-15:03 15_O33 Twist Limits Of Late Twisting Double Somersaults On Trampoline.
Maurice Yeadon; Michael Hiley

Michael Hiley; Maurice (Fred) Yeadon

15:18-15:31 15_O35 Three-dimensional Analysis Of Yurchenko Layout With 360’ Twist
In Female Vaults: Modified Deterministic Model And Judges’ Scores.
Young-Kwan Kim; Cheol-Hee Park

Behaviour Of Gymnasts – A Methodological Study. Uwe G. Kersting;
August P. Brandi; Andrew B. Rosendal; Jacob F.S.G. Hansen; Mark B.
Kristensen; Martin L. Gregersen

15:46-15:59 15_O37 Thoracoabdominal Motion During Different Exercises Of Classical
Ballet: Preliminary Results. Isabella Martins Rodrigues; Gustavo
Bernadina; Carlo Massaroni; Karine Sarro; Andres Chiapeta; Pietro
Cerveri; Amanda Silvatti
Thursday, 15th

Oral Sessions 8: Team Sports 1
Location: Lecture Hall 1 | Chair: K. Ball, K. Gianikellis

17:35-17:48 15_O50 
**Kinematics Of The Axial Skeleton During One-man Rugby Union Scrums.** Adrien Cerrito; Kerrie Evans; Roger Adams; Claudio Pizzolato; Peter Milburn

17:49-18:02 15_O51 
**Biomechanics Of Goal-kicking Accuracy In Australian Football Using An Inertial Measurement System.** Stephanie Blair; Grant Duthie; Sam Robertson; Kevin Ball

18:03-18:16 15_O52 
**The Influence Of Side Dominance On Upper Body Kinematics During Rugby Passes From The Ground.** Mark Sayers; Rohan Ballon

18:17-18:30 15_O53 
**The Relationship Between Impact Charactersitics And Forced Plantar-flexion During Football Kicking.** James Peacock; Kevin Ball

18:31-18:44 15_O54 
**Determining The Dynamic Contributions To Kicking Foot Speed In Rugby Place Kicking.** Sekiya Koike; Neil Bezodis

18:45-18:58 15_O109 
**Subject- And Joint-specific Strategies Used By Male Basketball Players To Maximize Countermovement Jump Height.** Kristof Kipp; Michael Kiely; Matthew Giordanelli; Philip Malloy; Christopher Geiser
Thursday, 15th

Oral Sessions 9: Gait and Locomotion
ID Location: Lecture Hall 2 | Chair: M. Robinson, D. Fong

**Interaction Effects Of Posture And Uneven Ground On Able-bodied Walking Kinetics.** Soran Aminiaghdam; Christian Rode; Reinhard Blickhan

17:35-17:48 15_O55

**Are There Gender-specific Differences In Elementary Motor Speed Ability?** Juergen Krug; Gerald Voss; Maren Witt

17:49-18:02 15_O56

**Principal Component Analysis Of Neural And Kinematic Parameters Of Forward And Backward Walking Across Different Inclines.** Konstantinos Angeloudis; Stuart Miller

18:03-18:16 15_O57

**Determination Of Functional Groups In Different Levels In Running Gait; Lower Limb Mechanical Energy Analysis.** Mansour Eslami; Esmaeil Hosseininejad; Fatemeh Salari Esker; Rohollah Yousefpour; Afshin Fayyaz Movaghar; Heydar Sadeghi

18:17-18:30 15_O58

**Effects Of Triceps Surae Fatigue On Gait Local Dynamic Stability In Women As Practitioners And Non-practitioners Of Strength Training.** Gergia Cristina; Rina Magnani; Fábio Rodrigues; Gustavo Souza; Vieria Marcus

18:31-18:44 15_O59

**Kinematic Strategies To Keep An Unchanged Margin Of Stability During Treadmill Running On An Even And Uneven Surface.** Nils Eckardt; Alessandro Santuz; Antonis Ekizos; Adamantios Arampatzis; Armin Kibele

18:45-18:58 15_O60

**Recovery Of Daily Activity Patterns In Patients After Acl Reconstruction.** Dieter Rosenbaum; Maik Sliepen; Benedikt Schliemann; Johannes Glasbrenner; Simon Lenschow; Mirco Herbold; Michael Raschke; Clemens Kösters

18:59-19:12 18_O154
Thursday, 15th
Oral Sessions 10: Various Sports
ID Location: Lecture Hall 3 | Chair: J. Hamill, L.-A. Furlong

**17:35-17:48 15_O38**
**Elite Rowers Apply Different Forces Between Stationary And Sliding Ergometers, & On-water Rowing.** Sarah-Kate Millar; Duncan Reid; Lisa McDonnell; Jay Lee; Sophia Kim

**17:49-18:02 15_O39**
**Intra- And Inter-rater Reliability Of A Video-based Method To Quantify Stroke Synchronisation In Crew-boat Sprint Kayaking.** Cheryl Tay; Pui Wah Kong

**18:03-18:16 15_O40**
**A Simple Mathematical Model Of A Single Sculling Technique.** Michal Wychowanski; Grzegorz Sługocki; Grzegorz Orzechowski; Zbigniew Staniak; Dariusz Radomski; Aleksander Trzciński; Andrzej Wit

**18:17-18:30 15_O41**
**Feedback On Rowers' Mechanical Power Output Improves Compliance To Intended On-water Training Intensity.** Lotte L. Lintmeijer; Mathijs J. Hofmijster; Freek S. Robbers; A.J. "Knoek" van Soest; Peter J. Beek

**18:31-18:44 15_O42**
**Does Specialization In Karate Affect Reaction Time In Specific Karate Kumite Situations?** Aleksandar Nedeljkovic; Milos Mudric; Ivan Cuk; Sreco Jovanovic; Slobodan Jaric

**18:45-18:58 15_O43**
**Three-dimensional Neck Kinematics During Breakfall For Osotogari And Its Association With Neck Strength In Novice Judokas.** Sentaro Koshida; Takanori Ishii; Tadamitsu Matsuda; Toshihiko Hashimoto
Thursday, 15th
Oral Sessions 11: Computer Modelling and Simulation 1

ID  Location: Lecture Hall 4 | Chair: F. Yeadon, J. Vanrenterghem

17:35-17:48  15_O44
Prescribing Joint Co-ordinates During Model Preparation In Opensim
Improves The Accuracy Of Lower Limb Kinematics. Chris John Jackson; Jacqueline Alderson; Gillian Weir; Cyril J Donnelly

17:49-18:02  15_O45
Comparing Estimated And Measured Muscle Activation During
Highly Dynamic And Multidirectional Movements-a Validation Study.
Mareike Dietzsch; Sina David; Thomas Dupré; Igor Komnik; Wolfgang Potthast

18:03-18:16  15_O46
Muscle Force Estimation In Clinical Biomechanics: Anybody Vs
OpenSim. Ursula Trinler; Nathalie Alexander; Hermann Schwamender; Richard Baker

18:17-18:30  15_O47
Soft Tissue Artefacts Cause An Underestimation In Knee Flexion
Angle In Skinmarker Based Squat Simulations. Silvio Lorenzetti;
Michael Plüss; Florian Schellenberg; Renate List; Pascal Schütz; William R. Taylor

18:31-18:44  15_O48
A Non-invasive Method To Investigate Foot Bone Kinematics. Kilian
Rauner; Anja Krautter; Stefan Lehner; Jürgen Mitternac; Veit Senner

18:45-18:58  15_O49
Predicting Ground Reaction Forces From Trunk Kinematics: A Mass-
spring-damper Model Approach. Niels J Nedergaard; Mark A.
Robinson; Barry Drust; Paulo Lisboa; Jos Vanrenterghem
Use Of Statistical Parametric Mapping To Reveal Novel Athlete-specific Kinetic Determinants Of Sprint Start Performance. Steffi L. Colyer; Aki I.T. Salo

The Effect Of Warm-up On Sprinting Kinematics. Pedro Morouço; Maria Helena Gil; Henrique P. Neiva; Mário C. Marques; António Sousa; Daniel A. Marinho

Kinetic Analysis Of The Block Start And First Two Contacts In Sprinting. Philip Graham-Smith; Chris Brandner; Joong Hyun Ryu; Luke Gallagher

The Relationship Between Reactive Strength Measures And Sprinting Performance. Robin Healy; Carol Smyth; Andrew J Harrison

Comparison Of Step-by-step Kinematics Of Resisted, Normal And Assisted 30 M Sprints In Experienced Sprinters. Roland van den Tillaar; Paul Gamble
Friday, 16th

Oral Sessions 13: Injury Prevention 1
ID Location: Lecture Hall 2 | Chair: C. Nicol, A. Veloso

A Previous Hamstring Injury Affects Limb Dominance In Soccer Kicking.
Archit Navandar; Santiago Veiga; Carlos Garcia; Javier Rueda; Gonzalo Torres; David Chorro; Enrique Navarro

Lower Body Stiffness Variations And Associated Injury Risk During Sports Specific Tasks.
Emma Millett; Mark Moresi; Mark Watsford; Paul Taylor; David Greene

Influence Of Exercise History On Fall-induced Hip Fracture Risk.
Shinya Abe; Nathaniel Narra; Riku Nikander; Jari Hyttinen; Reijo Kouhia; Harri Sievänen

The Effect Of Fatigue Induced From A Simulated Hockey Match On Biomechanical Acl Injury Risk Factors In Elite Female Field Hockey Players.
Gillian Weir; Jacqueline Alderson; Daniel Hiscock; Marc Smith; Alexis Alicea; Cyril J Donnelly

Depth Jump - Damping Mechanism In Non-contact Acl Injury Prevention. Antonio Squillante
Oral Sessions 14: Swimming / Aquatic Sports

8:30-8:43 16_O61 Is There Any Transfer Between Countermovement Jump And Swimming Track Start Performance? Diogo António Duarte Carvalho; Pedro Fonseca; Daniel A. Marinho; António J. Silva; Rodrigo Zacca; Luís Mourao; Ricardo J. Fernandes; Paulo Vilas-Boas

8:44-8:57 16_O62 The Validation Of A Swimming Turn Wall-contact-time Measurement System. Victoria Brackley; Kevin Ball; Elaine Tor

8:58-9:11 16_O63 A Method Of Improving The Measurement Of Kinematic Parameters Above And Under Water In Swimming Start. Hideki Takagi; Takuma Tatsumoto; Shin Sakai

9:12-9:25 16_O64 Three-dimensional Flow Field And Leg Motion During Undulatory Underwater Swimming. Hirofumi Shimojo; Ryo Murakawa; Rio Nara; Yasuhiro Baba; Yasuo Sengoku; Jun Sakakibara; Yoshimitsu Shimoyama; Shozo Tsubakimoto; Hideki Takagi
Oral Sessions 15: Sensor Technology 1

ID Location: Lecture Hall 4 | Chair: M. Shorten, J. Kröll

Estimation Of The Centre Of Mass Kinematics In Alpine Ski Racing
Using Inertial And Magnetic Sensors. Benedikt Fasel; Matthias Gilgien; Jörg Spörri; Kamiar Aminian

On The Use Of Ineratial Sensors To Determine Trunk Displacement During Walking: A Validation Study. Martin Fleron; Niels Ubbesen; Francesco Battistella; David Leandro Dejtiar; Anderson S.C. Oliveira

Estimation Of The Centre Of Mass And Pelvis Movement In Running Using An Inertia Sensor Mounted On Sacrum. Yasushi Enomoto; Takehiro Aibara; Kanami Sugimoto; Seki Keitaro; Toshiharu Yokozawa; Ryota Murata

Contact Time And Foot Strike Angles Estimation Using Foot Worn Inertial Sensors In Running. Mathieu Falbriard; Frédéric Meyer; Benoît Mariani; Grégoire P. Millet; Kamiar Aminian

Analysis Of Grip Force During A Golf Putting At Different Distance - Pilot Study. Yu-Te Wang; Po-Cheng Su; Yen-Lei Wu; Jia-Hao Chang
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<td>11:00-11:13</td>
<td>16_O80</td>
<td>Does Central Fatigue Limit Muscle Force Generation Capacity During Fatigue?</td>
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<td>11:14-11:27</td>
<td>16_O81</td>
<td>Comparison Of The Reliability Of Peak Force Measured During An Isometric Mid-thigh Pull And Isometric Squat.</td>
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<td>11:28-11:41</td>
<td>16_O82</td>
<td>Force-velocity Relationship Of Leg Muscles Assessed By Motorized Treadmill Tests.</td>
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<td>11:42-11:55</td>
<td>16_O83</td>
<td>Comparison Of Three Emg-based Muscle Fatigue Assessments In Dynamic Contractions.</td>
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<td>11:56-12:09</td>
<td>16_O85</td>
<td>Operating Length And Velocity Of Human M. Vastus Lateralis Fascicles During Vertical Jumping.</td>
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Head Acceleration During A Simulated Match Load Of Tackles.
11:00-11:13 16_O86 Georgianne Nichols; Negin Loh; Andrew Lavender; Simon Rosalie; Paul Davey; Kevin Netto

Relevance Of Early Stretching In Overhead Athletes. Cédric
11:14-11:27 16_O87 Schwartz; François Tubez; Jean-Louis Croisier; Vincent Denoël; Olivier Brüls; Bénédicte Forthomme

Biomechanical Loads In Rugby Union Tackling Are Affected By Tackle Direction And Impact Shoulder. Ezio Preetoni; Elena Seminati; Dario Cazzola; Grant Trewartha; Sean Williams

Functional Adaptations In Isokinetic Performance And Shoulder Mobility In Elite Ultimate Frisbee Players. Christoph Koeble; Wolfgang Seiberl

The Effect Of Kinesiotaping Compared To No Tape On Surface Emg Activity Of The Shoulder Muscles During Overhead Functional Movements. Kenneth Charles Henning Groop; Paolo Sanzo; Carlos Zerpa

Risk Of Injury In Trail Running: A Preliminary Study. Rachel Christy Reid Bean; Gregory Schwartz; Yumna Albertus; Danielle Prins; Nicholas Tam
Friday, 16th
ID Location: Lecture Hall 1 | Chair: H. Nunome

13:30-13:32 16_P38 Kinematic And Kinetic Comparison Between American And Japanese College Pitchers. Brittany Dowling; Caitlin P Owen; Walter T Laughlin; Glenn S Fleisig


13:36-13:38 16_P40 Injury During The Stance Phase Of Football Cutting Maneuvres In Match Play Conditions? Rajiv Kaila; Gareth Irwin

13:39-13:41 16_P41 Distance In High School Baseball Players. Brittany Dowling; Caitlin Owen; Travis Tubbs; Joshua Dines; Christopher Camp

13:42-13:44 16_P42 The Effect Of Concussion On Reaction Time And Dual Tasking Ability In A Simulated Driving Environment. Dennis Dumphy; Carlos Zerpa; Thomas Hoshizaki; Bruce Weaver; Dave McKee; Michel Bédard; Paolo Sanzo

13:45-13:47 16_P43 Performance Of The Maximal Instep Soccer Kick. Simon Augustus; Neal Smith; Penny Hudson


14:00-14:02 16_P49 Differences In Kicking Dynamics Of Futsal And Soccer Ball. James Peacock; Alessandro Garofolini; Luca Oppici; Fabio Serpìello; Kevin Ball

14:03-14:05 16_P50 Kinematics Of Soccer Dribbling In Different Tasks. Jia-Hao Chang; Tang-Yun Lo; Wu-Ye Chang; Yo Chen
13:30-13:32 16_P51 Compression Profile Of Sport Compression Stockings In Runners. Francisco Javier Oficial Casado; Inmaculada Aparicio; Iván Julián; Pedro Pérez-Soriano

13:33-13:35 16_P52 Do Sport Compression Stockings Improve Comfort And Accelerometry Parameters In Runners? Francisco Javier Oficial Casado; Inmaculada Aparicio; Iván Julián; Pedro Pérez-Soriano

13:36-13:38 16_P53 Analysis Of The Transformation Of The Velocity Of The Center Of Gravity In Running Single Leg Horizontal Jump. Atsushi Shibata; Hiroyuki Koyama; Yasushi Enomoto


13:42-13:44 16_P55 Acute Effects Of Different Cushioned Footwear On The Biomechanics Of Running. Michael Bohne; Taylor Standifird; Amy Nelson; Dani Robinson

13:45-13:47 16_P56 Leg Stiffness During Jogging On Small Curved Path. Kazuhiro Ishimura; Shinji Sakurai

13:48-13:50 16_P57 Effect Of Fatigue On Kinematics And Kinetics Of Youth Runners: A Pilot Study. Susan Basile; John Oliver; Mark Geil

13:51-13:53 16_P58 Effect Of Shoes And Tights With The Support Function On Support Leg During Running. Takanori Nishiura; Keitaro Seki; Yasushi Enomoto; Daisuke Kogawa

13:54-13:56 16_P59 Required Coefficient Of Friction Analyses In Running. Andrea Brugnoli Vidal; Lucas A. Monezi; Karine J. Sarro; Alysson F. Mazoni; Heber T. Pinto; Ricardo M. L. Barros

13:57-13:59 16_P60 Changes In Mechanical Power And Running Economy In Distance Runners. Hirosuke Kadono

14:00-14:02 16_P61 The Effects Of Minimal Foot Support Boots On Lower Extremity Walking. Ariana LaFavre; Tom Wu; David Pearsall; Pamela Russell; Tyler Champagne
Friday, 16th

**Power Poster 6 – Water Sports & Strength & Conditioning**

Location: Lecture Hall 4 | Chair: R. Jensen

**13:30-13:32 16_P62**

**Differences In Trunk Angles Through Different Shooting Directions In Water Polo Penalty Shooting.** Sukhoon Yoon; Chan-hyuck Jung; Ji-seon Ryu; Sangkyoon Park; Heesung Lim; Sangheon Park; Joonyeon Kim; Jiho Park

**13:33-13:35 16_P63**

**Kinematic Analysis Of Diving Back Pike Somersault In Platform According To Players’ Skill Level.** Sukhoon Yoon; Jiho Park; Ji-seon Ryu; Sangkyoon Park; Heesung Lim; Sangheon Park; Joonyeon Kim; Chan-hyuck Jung

**13:36-13:38 16_P64**

**Reflex Responses To Local Soleus Muscle Vibration.** Axel J. Knicker; Haitham Abdulhafiz; Kirsten Albracht


**A Case Study Of The Start In Flat Water Kayaking Competitions.** Matilde Espinosa Sanchez

**13:42-13:44 16_P66**

**The Wedge Effects On Vertical Force-time Curve Instants And On Backstroke Start Performance.** Diogo António Duarte Carvalho; Kelly de Jesus; Pedro Goncalves; Alexandre I. A. Medeiros; Ricardo J. Fernandes; Paulo Vilas-Boas; Karla de Jesus

**13:45-13:47 16_P67**

**The Effect Of Bungee Tension On Power Profiling In Kayak Ergometry.** Catherine Shin; Alexander P. Willmott; David R. Mullineaux; Paul Worsfold

**13:48-13:50 16_P68**

**Roles Of The Extremities During Kick Start In Competitive Swimming.** Kazumasa Ozeki; Hiroshi Suito; Shintaro Sakurai; Tatuya Urata

**13:51-13:53 16_P69**

**The Effect Of Foot Rotation Angle On Trunk Rotational Strength And Physical Quantity To Rotate The Body.** Fukashi Shinkaiya; Yuki Ito; Keizo Yamamoto

**13:54-13:56 16_P70**

**The Effects Of Concurrent Biofeedback On Rowing Performance.** Anthony Gorman; Alexander P. Willmott; David R. Mullineaux

**13:57-13:59 16_P71**

**Relationship Between The Kinematics Of The Trunk And Lower Extremities And Ball Velocity During The Overhand Throw In Male Canoe Polo Players.** Li-Chun Chang; Yi-Jen Chen

**14:00-14:02 16_P72**

**Hip Joint Kinetics During The Barbell Hip Thrust.** Ian Bezodis; Adam Brazil; Jac Palmer; Laurie Needham

**14:03-14:05 16_P73**

**The Relationship Between Foot Movement And The COM Velocity In Elite Female Breststroke Swimmers.** Yuji Matsuda; Keita Akashi; Yasuyuki Kubo

**14:06-14:08 16_P74**

**Kinematic Analysis Of Kettlebell Swing In Different Surfaces - Comparison Between Stable And Unstable Surfaces.** Rui Silva; Nuno Amaro; Daniel A. Marinho; Sandra Amado; Pedro Morouço
The Optimization Of Trunk Position For The 2016 Rio Paralympic Wheelchair Racing Finals. Amy Lewis; Elissa Phillips; Victoria Moore; Jason Bartram; Paul Grimshaw; Marc Portus; William Robertson

Predicting The Sequence Of Mean Propulsion Forces During Indoor Wheelchair Sports: A Proof Of Concept. Félix Chénier; Rachid Aissaoui

Dynamically Optimized Muscle Activity Patterns From A Novel Handle Based Propulsion Movement For A Wheelchair. Nithin Babu Rajendra Kurup; Markus Puchinger; Margit Gföhler

Speed Profiles In Wheelchair Court Sports; Comparison Of Two Methods For Measuring Wheelchair Mobility Performance. Rienk van der Slikke; Barry Mason; Monique Berger; Vicky Goosey-Tolfrey

Changes In The Kinematic And Kinetic Profile Of Handcycling Propulsion Due To Increasing Workloads. Oliver Jan Quittmann; Joshua Meskemper; Thomas Abel; Kirsten Albracht; Heiko K. Strüder
Comparative Study Of Shoe-surface Interaction In Trail Running - Subjective And Objective Evaluation. Bahador Keshvari; Veit Senner; Dominic Kraft; Steven Alevras

Effects Of Two Different Compression Stockings In Venous Return Before And After Running. Inmaculada Aparicio; Francisco J. Oficial; Iván Julián; María Blanes; Pedro Pérez-Soriano

Minimizing Shoe-surface Friction At Initial Contact: A Novel Approach To Prevent Lateral Ankle Sprains. Filip G. Lysdal; Ádám Frank; Michal Dziewiecki; Uwe G. Kersting

Effects Of Medial Wedge Insoles When Walking On Different Surfaces. Cristina I. Vinescu; Uwe G. Kersting

The Influence Of Shaft Stiffness On Ankle Joint Kinematics And Kinetics During Walking In Hiking Boots. Frederik G. Larsen; Nicolai Støttrup; Daniel Andriëssen; Sarah Weiler; Uwe G. Kersting
Friday, 16th

Oral Sessions 20: Team Sports 2
ID Location: Lecture Hall 4 | Chair: J. Alderson, M. Walsh

14:50-15:03 16_O102 The Influence Of Cricket Pitch Length On Ball Release By Junior Bowlers. Michael J Harwood; Mark A. King; M.R. (Fred) Yeadon

15:04-15:17 16_O103 A Simulation Analysis On Effects Of The Upper Body Motion On Bat-head Speed In Baseball Batting. Kazumichi Ae; Sekiya Koike; Norihisa Fujii; Michiyoshi Ae

15:18-15:31 16_O104 Correlations Between Trunk And Bat Kinematics For Baseball Players Calculated Using Both Individual And Group Statistics. Peter J Sinclair; Matthew Hollings; Jonathan Freeston

15:32-15:45 16_O105 Comparison Of Kinematics In Repeated 30 M Sprints In Female Soccer Players. Roland van den Tillaar

Saturday, 17th

Oral Sessions 22: Jumping & Landing 2
ID Location: Lecture Hall 1 | Chair: M. Ae, G. Strutzenberger

8:30-8:43 17_O127
Leg- And Joint Stiffness In Male Elite High Jump: The Influence Of Stiffness On Sports Performance. Eike Boden; Björn Braunstein; Kai Heinrich; Maximilian Sanno; Benjamin Stäudle; Wolfgang Ritzdorf; Gert-Peter Brüggemann; Kirsten Albracht; Jan-Peter Goldmann

8:44-8:57 17_O128
Greater Skeletal Contributions To Leg Stiffness In High- Compared To Low-arched Athletes During Running And Landing Movements. Douglas W. Powell; Max R. Paquette; D. S. Blaise Williams III

8:58-9:11 17_O129
Effects Of Patellar Tendon Strap On Electromyographic Activity Of Quadriceps Muscles During Drop Landing. Burkay Utku; Arif Mithat Amca; Serdar Aritan

9:12-9:25 17_O130
Effect Of The Kinesio-taping On Female Athletes During The Stop-jump Task Post-fatigue. Chen-Fu Huang; Po-Han Chang

9:26-9:39 17_O131
Muscle-tendon Adaptation Monitoring In Elite Athletes: Preliminary Results From A Longitudinal Investigation. Gaspar Epro; Matthias König; Christopher McCrum; Michael Bädorf; Falk Schade; Kiros Karamanidis
Saturday, 17th

Oral Sessions 23: Track & Field 2

ID Location: Lecture Hall 2 | Chair: P. Weyand, D. Bubeck

8:30-8:43  17_O122  The Influence Of Discus Mass On Performance-determining Variables. Jill Emmerzaal; Thomas Hoogerbrugge; Ina Janssen

8:44-8:57  17_O123  Kinematic And Technical Factors For Acceleration Of Whole Body In Rotational Shot Put Technique. Tadahiko Kato; Hirofumi Kintaka; Yoshihisa Urita; Akira Maeda

8:58-9:11  17_O124  Simplified Marker Sets For The Calculation Of Centre Of Mass Location During Bend Sprinting. Laura Judson; Sarah Churchill; Andrew Barnes; Joseph Stone; Jon Wheat

9:12-9:25  17_O125  Comparison Of Step Characteristic Interaction And Asymmetry Between Failed And Successful Attempts In Pole Vault. Apostolos Theodorou; Vassilios Panoutsakopoulos; Timothy Exell; Nebojša Vujkov

9:26-9:39  17_O126  Pole-athlete Interaction During The Pole Vault Approach Phase. Laurie Needham; Ian Bezodis; Timothy Exell; Gareth Irwin
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<td>8:30-8:43</td>
<td>17_O112</td>
<td>Kinematic Analysis Of Bicycle Pedalling Using 2D And 3D Motion Capture Systems.</td>
<td>Juan García-López; Pedro Abal del Blanco</td>
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<td>8:44-8:57</td>
<td>17_O115</td>
<td>Handle Reaction Forces In Handcycling On An Ergometer.</td>
<td>Josef Viellehner; Johannes Funken; Felix A. J. Wolbert; Markus Peters; Wolfgang Potthast</td>
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<td>8:58-9:11</td>
<td>17_O114</td>
<td>Pedal Forces During The Bmx And Track Sprint Cycling Start.</td>
<td>Ina Janssen; Jesper Cornelissen</td>
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<td>9:26-9:39</td>
<td>17_O116</td>
<td>New 3D Method To Estimate The Cycling Frontal Area During Pedalling.</td>
<td>Ventura Ferrer-Roca; Daniel Alvarez; Nicholas Vretos; Argyrys Chatzifolis</td>
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8:30-8:43 17_O117  **Neural Network Prediction Of Barbell Kinematics From Joint Kinetics In Weightlifting.** Kristof Kipp

8:44-8:57 17_O118  **Concurrent Validity Of Lower Limb Kinematics Between Markerless And Marker-based Motion Capture Systems In Gait And Running.** Alejandro Molina-Molina; Elia Mercado-Palomino; Gabriel Delgado-García; Antonio Millán-Sánchez; Aurelio Ureña Espa; Víctor Manuel Soto-Hermoso

8:58-9:11 17_O119  **Energetic Cost Of Running Stability Evaluated With Wireless Trunk Accelerometry.** Kurt Schutte; Saint Sackey; Rachel Venter; Benedicte Vanwansee

9:12-9:25 17_O121  **The Influence Of Motion Tasks On The Accuracy Of Kinematic Motion Patterns Of An Imu-based Measurement System.** Marion Mundt; Anna Wisser; Sina David; Thomas Dupré; Valentin Quack; Franz Bamer; Markus Tingart; Wolfgang Potthast; Bernd Markert
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<td>11:00-11:13</td>
<td>17_O132</td>
<td>Analysis Of Simulated Annealing Based Optimization Of Human Movement For Performance Enhancement.</td>
<td>Dhruv Gupta; Jody L. Jensen; Lawrence Abraham</td>
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<td>11:14-11:27</td>
<td>17_O133</td>
<td>A Three-dimensional Kinematics On Contribution Of Effective Lower Body Segment Rotations In Producing Foot Velocity.</td>
<td>Shusei Sugi; Hiroyuki Nunome; Yuji Tamura; Takahito Iga</td>
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<td>11:56-12:09</td>
<td>17_O136</td>
<td>The Role Of Humeral Elevation Of The Non-throwing Arm On Maximum Ball Velocity In Unconstrained Overarm Throw.</td>
<td>Allan Fu; Richard Smith; Steve Cobley; Ross Sanders</td>
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<td>12:10-12:23</td>
<td>17_O137</td>
<td>Coach And Biomechanist Knowledge Of Sprint Running Technique.</td>
<td>Amy Waters; Elissa Phillips; Derek Panchuk; Andrew Dawson</td>
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Saturday, 17th

Oral Sessions 27: Adapted Sports 2
ID Location: Lecture Hall 4 | Chair: D. Rosenbaum, H. Krahl

11:00-11:13 17_O138 Running In Lower Limb Amputees: Advantages And Limitations Of New Sports Prosthetic Components. Thomas Schmalz; Jan Sottong

11:14-11:27 17_O139 Free Moment Application By Athletes With And Without Amputations In Linear And Curved Sprinting. Steffen Willwacher; Johannes Funken; Kai Heinrich; Tobias Alt; Ralf Müller; Wolfgang Potthast

11:28-11:41 17_O140 Wheelchair Mobility Performance Only Supports The Use Of Two Classes In Wheelchair Basketball. Rienk van der Slikke; Monique Berger; Daan Bregman; Annemarie de Witte; Dirk-Jan Veeger

11:42-11:55 17_O141 Kinetics And Kinematics Of The Block Phase Of Elite Para Swimming Starts. Ine Van Caekenberghe; Carl Payton

11:56-12:09 17_O142 The Use Of The Gradual Yielding Mechanism During Downhill Walking In Transfemoral Amputee Gait – A Case Study. Nathalie Alexander; Gerda Strutzenberger; Hermann Schwameder

12:10-12:23 17_O143 How To Deal With Rotation In Para-taekwondo. Kinoshita Madoka; Norihisa Fujii
Saturday, 17th
ID Location: Lecture Hall 1 | Chair: J. Krug

12:35-12:37 17_P75
Johannes Funken; Steffen Willwacher; Kai Heinrich; Ralf Müller; Hiroaki Hobara; Alena M. Grabowski; Gert-Peter Brüggemann; Wolfgang

12:38-12:40 17_P76
Leg Stiffness Asymmetry During Countermovement Jump. Artur Struzik; Jerzy Zawadzki

12:41-12:43 17_P77
Effect Of Seating Cushions On Pressure Distribution In Wheelchair Racing. Amy Lewis; Elissa Phillips; Paul Grimshaw; Marc Portus; William Robertson

12:44-12:46 17_P78
For People With Lower-body Disabilities. Thomas Fuglsang; Massimo Spoladore; Michele Dalla Piazza; Luca Paolo Ardigò

12:47-12:49 17_P79
The Kinetics Of A Wheelchair Sprinter Racing The 100m Final At The 2016 Paralympic Games. Tiago M Barbosa; Eduarda Coelho

12:50-12:52 17_P80
Joint Moments Of Unilateral Transfemoral Amputees Using Running-specific Prosthesis During Sprinting. Yuta Namiki; Yoko Sano; Atsushi Makimoto; Satoru Hashizume; Akihiko Murai; Yoshiyuki Kobayashi; Hiroshi Takemura; Hiroaki Hobara

12:53-12:55 17_P81
Specific-overload Characteristics Of Horizontal Jump Exercises In Comparison To The Block Start. Adam Brazil; Timothy Exell; Cassie Wilson; Steffen Willwacher; Gareth Irwin

12:56-12:58 17_P82
Kinetic Determinants Of Athletics Sprint Start Performance. Aki Salo; Steffi Colyer; Piers Chen; Anna Davies; Matias Morgan; Sophie

12:59-13:01 17_P83
Training Effect Of Running Over Flat Markers To Increase Stride Length - A Case Study. Soma Saito; Keizo Takahashi; Shun Kamei

13:02-13:04 17_P84
Resistance Harness In Track Athletes. Mindie Clark; Randall L. Jensen; Sarah B. Clarke; Ryan L. Meidinger

13:05-13:07 17_P85
Effect Of Altitude On 100-m Sprint Times: An Analysis Of Race Times From The Finals At Major Championships. Nick Linthorne

13:08-13:10 17_P86
Kinematic Analysis Of Resist-and-release Sprint Running. Oleg Nemtsev; Natalia Nemtseva

13:11-13:12 17_P87
Contributions To Braking Impulse During Initial Acceleration, Transition And Maximal Velocity In Sprinting. Hans von Lieres und Wilkau; Gareth Irwin; Neil Bezodis; Scott Simpson; Ian Bezodis
Saturday, 17th

Power Poster 8 – Muscle & Tissue Mechanics, Neuromuscular
Biomechanics

ID Location: Lecture Hall 2 | Chair: F. Colloud

Releasing One Hand During Therapeutic Climbing Exercises Affects
The Activation Of Arm And Shoulder Muscles In Healthy
Individuals. Gerda Strutzenberger; Daniela Leitl; Martin Pühringer;
Hermann Schwameder

The Use Of A Pre-activation Exercise For The Hamstrings To
Optimise The Amount Of Muscle Activity Present Within A Nordic
Hamstring Curl. Joseph O'Halloran; Gemma Milligan; Joshua Old;
Antonio Sawaya; Jack Bowen

Effect Of Heel Heights On Lower Extremity Muscle Activation For
Back-squat Performance. Christopher Johnston; Chase Hunt-Murray;
ChengTu Hsieh

Ergonomics And “usability” Applied On The Training Of Muscular
Force Qualities. Kostas Gianikellis; Andreas Skiadopoulos; Berta Caro
Evaluation Of Passively Induced Shoulder Stretch Reflex Using An
Isokinetic Dynamometer In Men. Lars Heinke; Axel Knicker; Kirsten
Albracht

The Relationships Between The Functional Movement Screen And
The Postural Stability In Collegiate Athletes. Alex J.Y. Lee; Lung-
Ching Liang; Yen-Ting Wang; W.H Lin

Electromyographic Analysis Of Balance Exercises In Single-leg
Stance Using Different Instability Modalities Of The Forefoot And
Rearfoot. Martin Alfuth; Markus Gomoll

Relationship Between Muscle Volume And Strength Asymmetry In
Elite Athletes: Investigation Of The Quadriceps Femoris And
Hamstring Muscles. Robert Bollinger; Dieter Bubeck; Ioannis Sialis;
Daniela Kramer; Eric Lehmann; Wilfried Alt

Multi-muscle Synergies During Lifting And Lowering Tasks: An
Uncontrolled Manifold Analysis. Andreas Skiadopoulos; Kostas
Gianikellis; Berta Caro Puértolas

A Case Study On The Muscular Adaptations To Accelerate While
Running Overground Vs Running On An Accelerating Treadmill. Ine
Van Caekenberghe; Dirk De Clercq
Location: Lecture Hall 4 | Chair: E. Pretoni

Elbow Loading During The Backwards Handspring: The Influence Of Hand Position. Laurie Needham; Sophie Burton; Roman Farana; Gareth Irwin

Analysis Of Lower Limb Bilateral Force Asymmetries By Different Vertical Jump Techniques. Silva Ribeiro Santos Araújo; Fabíola Bertú Medeiros; Edgardo Alves de Abreu; Nathália Oliveira Gonçalves; Hans-Joachim Karl Menzel

Static Balance In Individuals With Post-concussion Syndrome. Joshua McGeown; Paolo Sanzo; Carlos Zerpa; Simon Lees; Sarah Niccoli

The Interrelationship Of Joint Stiffness In Drop Jump Under Different Conditions: A Single-subject Design. Kanami Sugimoto; Yasushi Enomoto; Keitaro Seki

Kinematic Comparison Of The Seoi-nage Technique Between Elite And College Judo Athletes. Takanori Ishii; Michiyoshi Ae; Sentaro Koshida; Norihisa Fujii

Biomechanical Effects Of Sheer Thickening Polymer (stp)-based Hip Protectors. Taeyong Lee

The Effect Of Upper Limb Post-activation Potentiation On Increases In Vertical Jump Height Due To An Arm Swing. Gerwyn Hughes; Michelle Dalmeida; James Johnstone

Estimation Of Center Of Mass Velocity By Right Posterior Spine Iliac Landmark During Countermovement Jump. Hans-Joachim Karl Menzel; André G. P. de Andrade; Fabiola Bertú Medeiros; Túlio Banja; Erich Müller; Herbert Wagner

Descriptive Analysis Of The Hip And Knee Joint Loading During Reverse Roundhouse Kick (hook) Karate Kick Performed In Training And Competition Modes. Riyadh Alsaeed; Matthew Pain

Run-up Speed Parameters For Elementary School Long Jumpers. Yutaka Shimizu; Michiyoshi Ae

The Effects Of Kinesio Taping On Rate Of Force Development In Squat Jump And Counter Movement Jump. Chien-Ta Shen; Po-Teng Huang; Jia-Hao Chang

Changes In The Biomechanics Of A Reactive Cutting Manoeuvre In An Athletic Groin Pain Cohort Following A Successful Rehabilitation Intervention. Katherine Daniels; Andrew Franklyn-Miller; Chris Richter; Enda King; Shane Gore; Kieran Moran; Eanna Falvey

Objective Measurements Of Daily Activity Patterns Of ‘sportive’ Knee Osteoarthritis (koa) Patients. Dieter Rosenbaum; Maik Sliepen; Bernd Grimm
The Contribution Of Joint Torque To The Acceleration Of The Clubhead During The Downswing Phase In Golf: A Case Study. Atsushi Okamoto

The Effect Of Angle Of Impact, Neck Stiffness, And Impact Location On Measures Of Shear Forces During Helmet Testing. Carlos Eduardo Zerpa; Stephen Carlson; Paolo Sanzo; Eryk Przysucha; Thomas Hoshizaki; Derek Kivi

Kinetic Mechanisms Of The Pelvis Rotation About Its Longitudinal Axis During The Golf Swing. Tokio Takagi; Munenori Murata; Toshiharu Yokozawa

Directional Compression And Muscle Activity In A Retired World Cup Alpine Skier. Linnea Zavala; Cory Snyder; James Becker; John Seifert

The Effects Of Compression Tights On Dynamic Knee Motion During A Drop Vertical Jump In Female College Athletes. Jacopo A. Zamporri; Arnel Aguinaldo

Do Shoe Collar Height Influence The Kinematics And Kinetics Of Ankle Joint In Sagittal Plane Movement. Yang Yang; Xi Wang; Weijie Fu
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<tr>
<td>8:30-8:43</td>
<td>18_O144</td>
<td>Influence Of The Racket On The Smash Motion In Badminton.</td>
<td>Taiki Kawano; Shoichiro Takehara; So Kasamatsu; Kanato Suzuki</td>
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<td>8:44-8:57</td>
<td>18_O145</td>
<td>Relationships Between Hitting Technique And Ball Carry Distance In Cricket.</td>
<td>Chris Peploe; Stuart McErlain-Naylor; Andy Harland; Mark A. King</td>
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<td>8:58-9:11</td>
<td>18_O146</td>
<td>Effect Of Toe Wedges On The Biomechanics Of The Forward Lunge In Badminton.</td>
<td>Mikkel S. Gammelgaard; Frederik H. Ahlers; Wing-Kai Lam/LiNing; John Rasmussen; Uwe G. Kersting</td>
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<td>9:12-9:25</td>
<td>18_O147</td>
<td>Uncontrolled Manifold Analysis Of Joint Angle Variability During Table Tennis Forehand.</td>
<td>Yoichi Iino; Shinsuke Yoshioka; Senshi Fukashiro</td>
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<td>9:26-9:39</td>
<td>18_O148</td>
<td>A Comparison Of Lower Limb Kinematics Between Superior And Intermediate Players In Table Tennis Forehand Loop.</td>
<td>Yan Zhang; Jan Awrejcewicz; Marcio Goethel; Ievgen Levadnyi; Yaodong Gu</td>
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<td>8:30-8:43</td>
<td>18_O149</td>
<td>The Relationship Between Hamstring Flexibility And Maximal Strains Of Hamstring Muscle-tendon Units In Sprinting: Indication To Hamstring Strain Injury.</td>
<td>Bing Yu; Hui Liu; Xianglin Wan; William E Garrett</td>
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<td>8:44-8:57</td>
<td>18_O150</td>
<td>Synchronous Measurement Of The Normal Ground Reaction Force On Shoe Spikes And Forceplate.</td>
<td>Muhammad Zakir Hossain; Julian Grill; Wolfgang Grill; Brian MacIntosh</td>
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<td>8:58-9:11</td>
<td>18_O151</td>
<td>Force Generation In Sprint Running Is Related To Muscle Properties In Male Sprinters.</td>
<td>Andrea Monte; Paola Zamparo</td>
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<tr>
<td>9:12-9:25</td>
<td>18_O152</td>
<td>Ground Reaction Forces During Competitive Track Events: A Motion Based Assessment Method.</td>
<td>Andrew Udofa; Laurence Ryan; Kenneth Clark; Peter Weyand</td>
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<td>9:26-9:39</td>
<td>18_O153</td>
<td>Acute Effects Of The Speedmaker Resistive Sprint Device: Electromyography And Kinematics.</td>
<td>Ryan L. Meidinger; Randall L. Jensen; Sarah B. Clarke; Mindie Clark</td>
</tr>
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**Oral Sessions 31: Running**

**ID** Location: Lecture Hall 1 | Chair: T. Exell, R. van Emmerik

**The Relationship Of Anthropometry And Body Composition With Running Economy.** Sam Allen; Matthew I. Black; Steph E. Forrester; Joseph C. Handsaker; Jonathan P. Folland

**10:10-10:23 18_O164**

**A Novel Method For Initial Contact Detection In Treadmill Running Using Side Rail Reflective Marker.** Michaela Hassmann; Alena Stadlbauer; Philipp Kornfeind; Savvas Stafilidis

**10:24-10:37 18_O165**

**Detection Of Biomechanical Adaptation In Treadmill Running.** Julia Lindorfer; Josef Kröll; Hermann Schwameder

**10:38-10:51 18_O166**

**Running Pattern Differences In Gender And Running Level.** Javier Rueda Ojeda; David Chorro; Gonzalo Torres; Archit Navandar; Enrique Navarro

**10:52-11:05 18_O167**

**Interpretation Of Vector Coding Variability Measures: Within-day Repeatability And Between-subject Variation In Treadmill Running.** Holly Stock; Cassie Wilson; Chris McLeod; Richard van Emmerik; Ezio Preatoni

**11:06-11:19 18_O168**

**Effect Of Biomechanical Factors On Energy Cost During Running At Varying Inclines.** Keitaro Seki; Kanami Sugimoto; Heikki Kyröläinen; Yasushi Enomoto

**11:20-11:33 18_O169**
Sunday, 18th

Oral Sessions 32: Physical Activity
ID Location: Lecture Hall 2 | Chair: P. Sinclair, M. Lee

10:10-10:23 18_O176
Effects Of Walking Versus Completing A Neurocognitive Task On Breathing Physiology In Healthy Individuals - A Pilot Study. Patrick Siedlecki; Paolo Sanzo; Carlos Zerpa; Ian Newhouse

10:24-10:37 18_O177
Relation Between Anthropometric Data And Performance Of Lower Limb In Squat Jump. Mojtaba Ghasemi; Ali Mohammadi; Mohammad Hossein Ebrahimi; Mohammed Taghi Karimi; Mostafa Rostami

10:38-10:51 18_O179
The Effect Of Prolonged Sitting Versus Use Of A Treadmill Desk On Postural Stability. Laura Charalambous; Rachael Champion; Lindsey Smith; Colm McGirl; Daniel Bailey

10:52-11:05 18_O180
Effect Of Ten Days High-intensity Training On Dna Damage. Sascha Schlechtweg; Dieter Bubeck; Wilfried Alt; Achim Bub

11:06-11:19 18_O181
Changes In Balance And Joint Position Sense During A 12-day High Altitude Trek. Sarah B Clarke; Kevin Deighton; Caroline Newman; Gareth Nicholson; Liam Gallagher; Chris Boos; Adrian Mellor; David R Woods; John P O’Hara
Sunday, 18th  
Oral Session 33: Computer Modelling and Simulation 2  
ID Location: Lecture Hall 3 | Chair: Y.-H. Kwon, S. Lorenzetti

10:10-10:23  18_O170 **Effect Of Foot Rotation Angle On The Rotational Range Of Motion Of Trunk And Pelvis.** Keizo Yamamoto; Yuki Ito; Fukashi Shinkaiya

10:24-10:37  18_O171 **Wrapping Surfaces To Control Moment Arm Lengths During A Squat Task.** Danilo S. Catelli; Mariska Wesseling; Erik Kowalski; Ilse Jonkers; Mario Lamontagne

10:38-10:51  18_O172 **Using A Breakpoint To Determine The Optimal Cut-off Frequency.** David R. Mullineaux

10:52-11:05  18_O173 **Sphere Fitting Into Volumetric Representations Of Basketball Throws.** Volkan D. Yaylıoğlu; Serdar Arıtan

11:06-11:19  18_O174 **Prediction Of Ground Reaction Forces And Moments Via Supervised Learning Is Independent Of Participant Sex, Height And Mass.** William R. Johnson; Ajmal Mian; Cyril J Donnelly; David Lloyd; Jacqueline Alderson

11:20-11:33  18_O175 **Quantifying Segmental Coordination During A Sport Specific Movement Using A Modified Vector Coding Technique: A Comparison Between Two Coordination Pattern Classifications.** Robert Alan Needham; Jamie A Gosling; Roozbeh Naemi; Nachiappan Chockalingam
Force Trace Characteristics In Anterior Cruciate Ligament Deficient And Uninjured Knees During A Maximal Isometric Task. Joseph M. Moore; Dipak Raj; Genevieve K.R. Williams; Christopher Bridle; David R. Mullineaux

Initial Explorations Using The Knee Moment Vector Versus The Knee Abduction Moment To Identify Athletes At Risk Of Acl Injury. Mark Robinson; Raihana Sharir; Jos Vanrenterghem; Cyril J. Donnelly

Assessment Of Thigh Muscles Mechanical Capacities Following Acl Reconstruction Using The Two-velocity Method. Dragan Mirkov; Olivera M. Knezevic; Slobodan Jaric

Biomechanical Complexity: A Measure To Delineate Between Athletic Groin Pain Patients And Uninjured Controls. Shane Gore; Andrew Franklyn-Miller; Chris Richter; Eanna Falvey; Enda King; Kieran Moran

The Comparison Of Knee Joint Kinematics Between Two Types Of Stop Jump. Josh Walker; Sarah B. Clarke; Randall L. Jensen