

# Conference Program ISG 2016

## Day 1: Thursday, July 14th 2016

ZHAW Winterthur, Building TL, Technikumstrasse 9, 8401 Winterthur

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13.30 - 18.00	Matias, Ricardo & Blana, Dimitra	OpenSim Workshop, TL 421
18.00 – 19.30	Baumgartner, Daniel & Schütz, Susanne	Registration and Welcome Reception, TL Foyer

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## Day 2: Friday, July 15<sup>th</sup> 2016

ZHAW Winterthur Eulachpassage, TN E0.48 / TN E0.54, Technikumstrasse 71, 8401 Winterthur

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08.30	Baumgartner, Daniel & Schütz, Susanne	Registration and Coffee
09.00	Baumgartner, Daniel	Welcome
09.15	Keynote 1	PD Dr. med. Matthias A. Zumstein, University Hospital Berne, Switzerland

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### Session 1: Athletics and Sports

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10.00	Giovanardi, Andrea	Swimmer Hand Trajectory Using Wearable Inertial Magnetic Measurement Units: A Preliminary Study
10.15	Habechian, Fernanda	Children and Adolescents Competitive Swimmers, Amateurs and Non-Athletes: Scapular Kinematics and Relationship with Latissimus Dorsi Stiffness
10.30	Plummer, Hillary	The Influence of Lumbo-Pelvic Stability on Youth Pitching Kinematics
10.45	Pogetti, Livia Silveira	Relation between Core Endurance Time and Isokinetic Peak Torque of the Shoulder in Throwing Athletes with Shoulder Pain
11.00	Forgiarini Saccol, Michele	No Differences in Rotator Cuff Strength in Rugby Athletes with Previous Shoulder Injury

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11.15 - 11.45 Coffee Break & Visit of Industry Exhibition

### Session 2: Arthroplasty

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11.45	Favre, Philippe	Combined Experimental and Numerical Methods to Assess the Factors Affecting Primary Stability of a Stemless Humeral Prosthesis
12.00	Inyang, Adijat Omowumi	Investigating the Three-Dimensional Geometry of the South African Proximal Humerus
12.15	Schmid, Bruno	Comparison Between an Anatomic vs. Reverse Shoulder Prosthesis by Means of an Artificial Shoulder Simulator
12.30	Hopkins, Andrew	Longevity Gains for Screw Fixated Glenoid Baseplates through Navigation Guided Optimization
12.45	Kontaxis, Andrea	Pre-Operative Planning and Accurate Implantation Can Increase Impingement Free Range of Motion in Reverse Shoulder Arthroplasty – A Cadaveric Validation

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13.00 - 14.00 Lunch

### Session 3: Scapular Kinematics

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14.00	Pascoal, Augusto Gil	The Effect of a Flat Thoracic Spine Curvature on Scapular Posture. A Pilot Study with Classical Ballet Dancers
14.15	Parel, Ilaria	Is it Possible to Help Prevent Scapula Injuries in Baseball Pitchers?
14.30	Zanca, Gisele	Effects of Muscle Fatigue on Scapular Kinematics of Healthy Overhead Athletes during Simulated Throwing
14.45	Rosa, Dayana Patricia	Scapular and Humeral Motions in Individuals with and without Posterior Capsule Tightness
15.00	Bekker, Michel	Scapular Kinematics in able-bodied Subjects during Manual Wheelchair Propulsion

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15.15-15.45                      Coffee break & Visit of Industry Exhibition

### Session 4: Methods / Modelling

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15.45	Zhang, Cheng	3D Reconstruction of Scapula from Biplane X-ray Images
16.00	Blana, Dimitra	A new Glenohumeral Joint Model for the Study of Shoulder Stability
16.15	Humphries, Alex	Relationship between the Axial Rotational Range and Bone Geometry of the Glenohumeral Joint
16.30	Warner, Martin	Analysis of Soft Tissue Artefact using the Optimal Common Shape Technique during Glenohumeral Internal Rotation
16.45	Plessers, Katrien	Anatomical Reconstruction of Glenoid Bone Defects Using a Statistical Shape Model

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17.00-18.30                      Open Lab Session (guided Tour with 5 events, 15 Min each)

19.00                                Conference Dinner: Restaurant Gate 27, Theaterstr. 27b, 8400 Winterthur

## Day 3: Saturday, July 16<sup>th</sup> 2016

ZHAW Winterthur Eulachpassage, TN E0.46 / TN E0.54, Technikumstrasse 71, 8401 Winterthur

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08.30	Keynote 2	Prof. Dr. Tobias Nef, University of Bern, Switzerland
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### Session 5: Functional Assessment and Pain

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09.15	Kuster, Roman Peter	Usability and Validity of a Novel Smartphone Application to Measure Shoulder Range of Motion
09.30	Lang, Angelica	Kinematics of Reaching and Dexterity Components of a Functional Capacity Evaluation: Creating Normative Profiles for Compensation Identification
09.45	Mancuso, Matteo	A novel Virtual Reality Based Approach towards the Instrumented Functional Test of the Shoulder
10.00	Py, Rodrigo	Bilateral MRI Findings in Individuals with Unilateral Shoulder Pain

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10.15 – 10.45                      Coffee break & Visit of Industry Exhibition

## Session 6: Rotator Cuff

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10.45	Gossweiler, Lukas	Experimental Shoulder Testing under in-vivo Anatomy and Physiology
11.00	Kolk, Arjen	Glenohumeral Elevation is Reduced in Massive Posterosuperior Rotator Cuff Tears: a 3D Motion Analysis in Rotator Cuff Disease
11.15	Lawrence, Rebekah	The Effect of Humeral Elevation and Retroversion on Supraspinatus Subacromial Compression During a Simulated Reaching Task
11.30	Ludewig, Paula	Mechanical Internal Impingement of the Supraspinatus Tendon During a Simulated Reaching Task

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12.00 – 13.00                      Lunch

## Session 7: Muscle

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13.00	Cudlip, Alan	Examining NSCA and 'Powerlifting' Bench Press Techniques on Upper Extremity Muscle Activity
13.15	Kim, Soo	Electromyographic Investigation of Anterior and Posterior Regions of Supraspinatus: A Novel Protocol Based on Anatomical Insights
13.30	Oliver, Gretchen	Implication of Gluteus Medius Fatigue on Overhead Throwing Kinematics
13.45	Vidt, Meghan	Spatial and Load Dependency of Upper Limb and Shoulder Muscle Activity During Submaximal Exertions
14.00	Wochatz, Monique	Scapular Muscle Activity Pattern during Isokinetic Shoulder Flexion and Extension in Passive and Maximum Effort Conditions

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14.15 – 15.00                      ISG General Assembly

## Session 8: Poster Presentations: (2 Min)

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15.15	Heinke, Lars	Evaluation of Passively Induced Shoulder Stretch Reflex Using an Isokinetic Dynamometer in Men
15.17	Laumer, Jonathan	Experimental Analysis of the Subscapularis Force Response due to an External Load Impact
15.19	Sarshari, Ehsan	A Framework for Forward-Dynamics Simulation of the Human Shoulder
15.21	Springer, Jochen	Simulation of Forces in the Glenohumeral Joint with a Multi Body Simulation Model of the Human Shoulder
15.23	Smith, Simon	Total Shoulder Replacements Wear Tested in a Unique Shoulder Simulator
15.25	Bossuyt, Fransiska	Shoulder Pain in Individuals with Spinal Cord Injury
15.27	Cutti, Andrea Giovanni	Proposal of a Method to Summarize Quantitative Motion Analysis Data of the Upper Limb for Clinical Applications
15.29	Baumgartner, Daniel	Biomechanical Analysis of Roller Skiing to determine the Force Profile applied on Ski Poles
15.31	Staker, Justin	Three-Dimensional Kinematics of Shoulder Laxity Examination: Reliability, Validity and Relationship
15.33	Scheuner, Erika	Assistive System of the Shoulder Joint From Complex Exoskeleton to Functional 1 DoF Support

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15.45                                      Poster Session and Industry Exhibition with Wine & Cheese

16.45                      Baumgartner Daniel              Award Ceremony and Closing Remarks

## Day 4: Sunday, July 17<sup>th</sup> 2016

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07.30                      Baumgartner Daniel              Expedition to the Swiss Alps, one-day trip (2 hrs walking)

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