

# Conference Schedule

Registration, Presentation Sessions, and Meetings will take place in the Palisades Conference Room at the Village at Squaw Valley

## **Sunday, April 7, 2019**

4:00 - 6:00 PM Registration

6:00 - 8:30 PM Opening Reception, *Squaw Valley Conference Center*

## **Monday, April 8, 2019**

7:45 - 8:15 AM Registration

8:15 - 9:15 AM Welcome and Keynote Address

9:15 - 11:30 AM Session 1: Epidemiology

12:00 - 1:00 PM ISSS Board Meeting

2:30 - 6:15 PM Session 2: Risk and Resort Management

## **Tuesday, April 9, 2019**

7:45 - 8:15 AM Registration

8:15 - 11:45 AM Session 3: Bindings

11:45 - 12:00 AM National Secretaries Meeting

3:00 - 4:30 PM Session 4: Biomechanics I

4:45 - 6:00 PM Session 5: Snow Park Jump Modeling

## **Wednesday, April 10, 2019**

9:00 - 4:00 AM Ski Day or Tram Ride

11:30 - 1:30 PM Lunch, *Terrace Room at High Camp (at top of Tram)*

## **Thursday, April 11, 2019**

7:45 - 8:15 AM Registration

8:15 - 11:45 AM Session 6: Biomechanics II

11:45 - 12:00 AM National Secretaries Meeting

3:00 - 4:30 PM Session 7: Upper Extremity

4:45 - 6:00 PM Session 8: Other Mountain Activities

## **Friday, April 12, 2019**

7:45 - 8:15 AM Registration

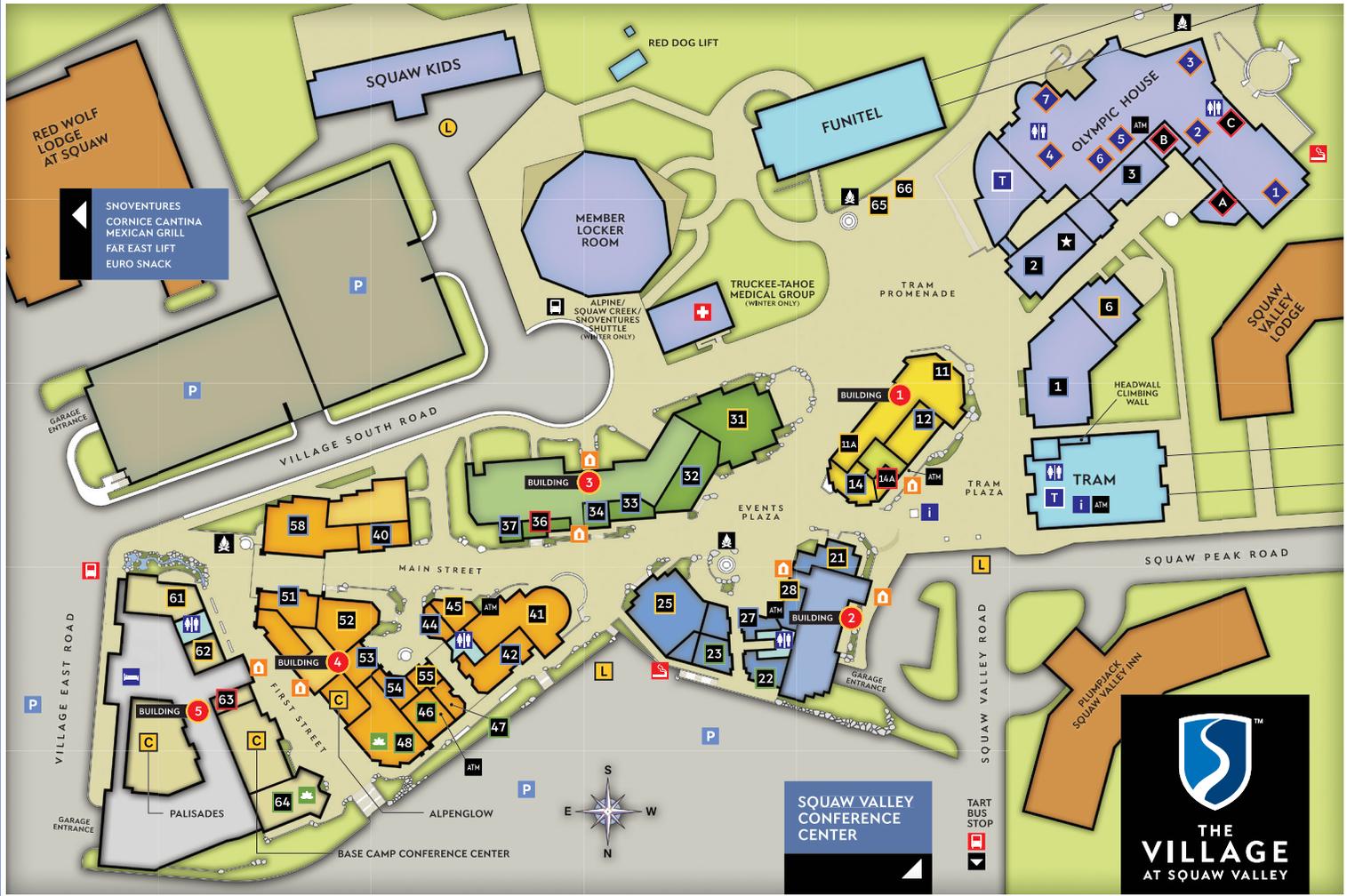
8:15 - 12:00 PM Session 9: Injury Risk Prediction and Reduction

2:30 - 4:00 PM Session 10: Technology

4:15 - 5:15 PM Session 11: Treatment and Health Outcomes

7:00 - 10:00 PM Conference Banquet and Awards, *Squaw Valley Conference Center*

# VILLAGE AT SQUAW VALLEY



**LODGING BUILDINGS**

- 1 FIRST ASCENT SUITES
- 2 NORTH FACE SUITES
- 3 SOUTH FACE SUITES
- 4 22 STATION WEST
- 5 22 STATION EAST

- RESTROOMS
- T TICKETS
- MEDICAL CLINIC
- C CONFERENCE ROOM
- P PARKING
- FIRE PIT
- WELLNESS
- LODGING CHECK-IN
- I INFO/GUEST SERVICES
- TART BUS STOP
- L LOADING ZONE
- LODGING ENTRANCE
- SECURITY
- DESIGNATED SMOKING AREA

## OLYMPIC HOUSE

### UPPER LEVEL

- 1 BAR ONE
- 2 O-LOUNGE
- 3 KT BASE BAR
- 4 PLAZA BAR
- 5 K|TCHEN
- 6 THE POCKET
- 7 DAVE'S DELI

### LOWER LEVEL

- A WILDFLOUR BAKING COMPANY
- B O-HOUSE DEMO SHOP
- C DAY LOCKERS

## DINING

- 6 LECHAMOIS & LOFT BAR
- 11 TWENTY-TWO BISTRO & BAR
- 11A THE SLOT BAR
- 21 STARBUCKS COFFEE
- 25 FIRESIDE PIZZA COMPANY
- 28 MOUNTAIN NECTAR
- 31 ROCKER@SQUAW
- 41 AULD DUBLINER IRISH PUB & RESTAURANT
- 45 EURO SWEETS
- 52 SUKO YAMA SUSHI
- 55 SOUPA
- 61 COFFEEBAR SQUAW VALLEY
- 62 UNCORKED WINE BAR & SHOP
- 65 EURO SNACK (WINTER ONLY)
- 66 EURO CREPE (WINTER ONLY)

## SHOPPING

- 1 PARALLEL MOUNTAIN SPORTS
- 2 SQUAW VALLEY SKI & SNOWBOARD RENTAL
- 3 SKI & SNOWBOARD SCHOOL SALES & RENTAL
- 12 SQUAW ONE LOGO COMPANY
- 14 PLUMPJACKSPORT
- 27 MIND PLAY
- 32 THE NORTH FACE
- 33 KALIFORNIA JEAN BAR
- 34 OAKLEY
- 37 SPRUCED GIFT & HOME
- 40 THE LEDGE BOARDSHOP
- 42 GALLERY KEOKI
- 44 LATHER & FIZZ BATH BOUTIQUE
- 51 SUREFOOT CUSTOM BOOT FITTERS
- 53 SQUAW VALLEY OUTFITTERS

## SHOPPING

- 54 SQUAW DOGS
- 58 PATAGONIA

## VILLAGE SERVICES

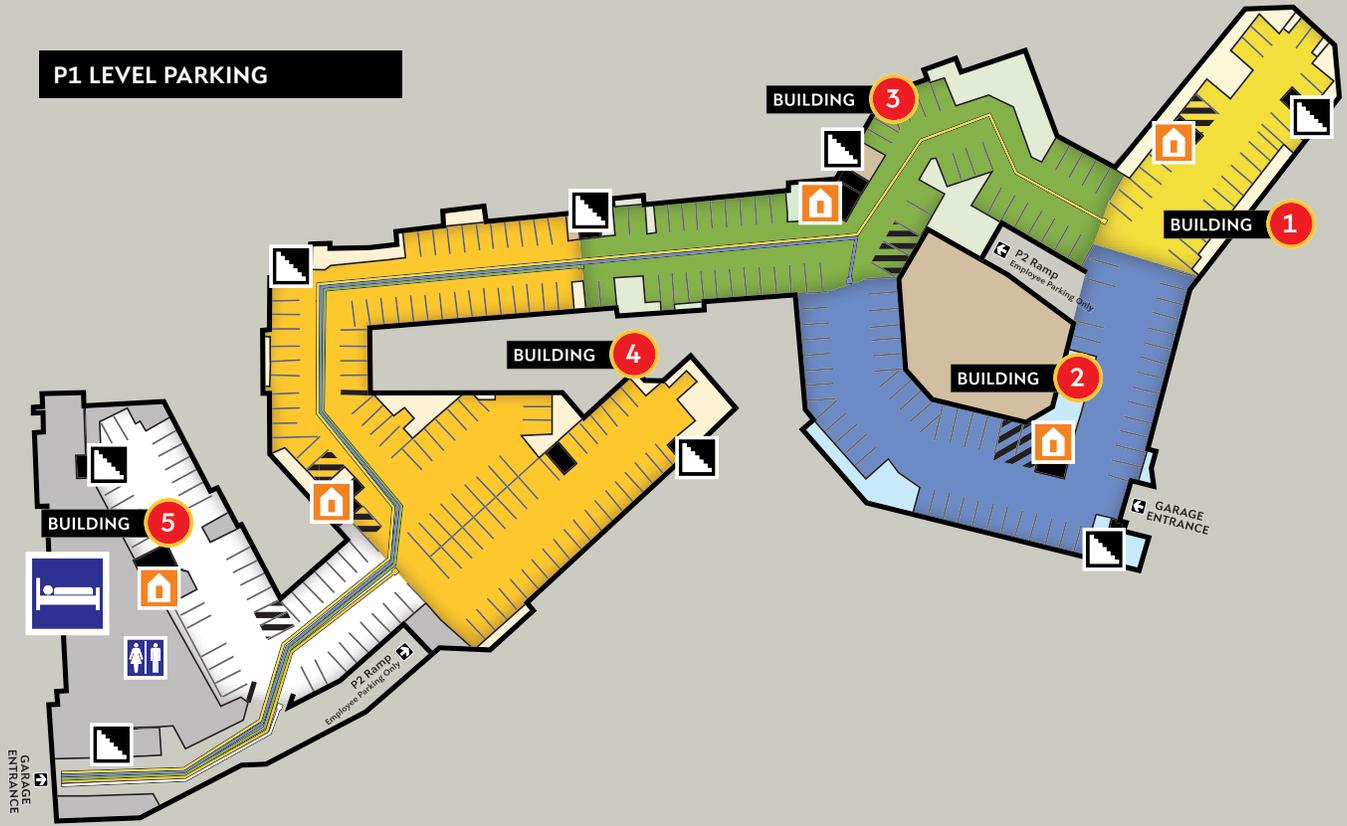
- 22 SQUAW VILLAGE NEIGHBOURHOOD CO.
- 23 ALPENGLOW EXPEDITIONS
- 46 ALICE'S MOUNTAIN MARKET
- 47 ALICE'S BOTTLE SHOP
- 48 TRILOGY SPA
- 64 WANDERLUST YOGA SQUAW VALLEY

## REAL ESTATE

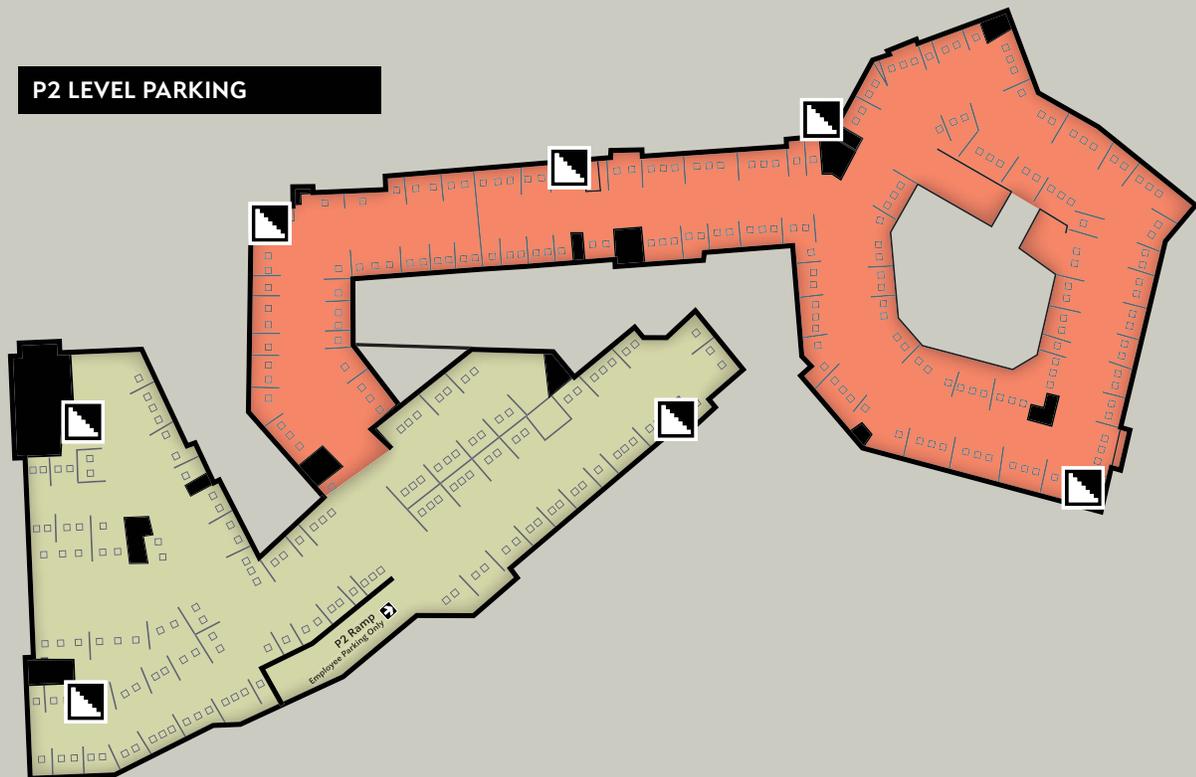
- 14A PLUMPJACK SQUAW VALLEY INN AND RESIDENCES SALES OFFICE
- 36 COMPASS REAL ESTATE
- 63 SIERRA SOTHEBY'S INTERNATIONAL REAL ESTATE

# GUEST & HOMEOWNER PARKING

## P1 LEVEL PARKING

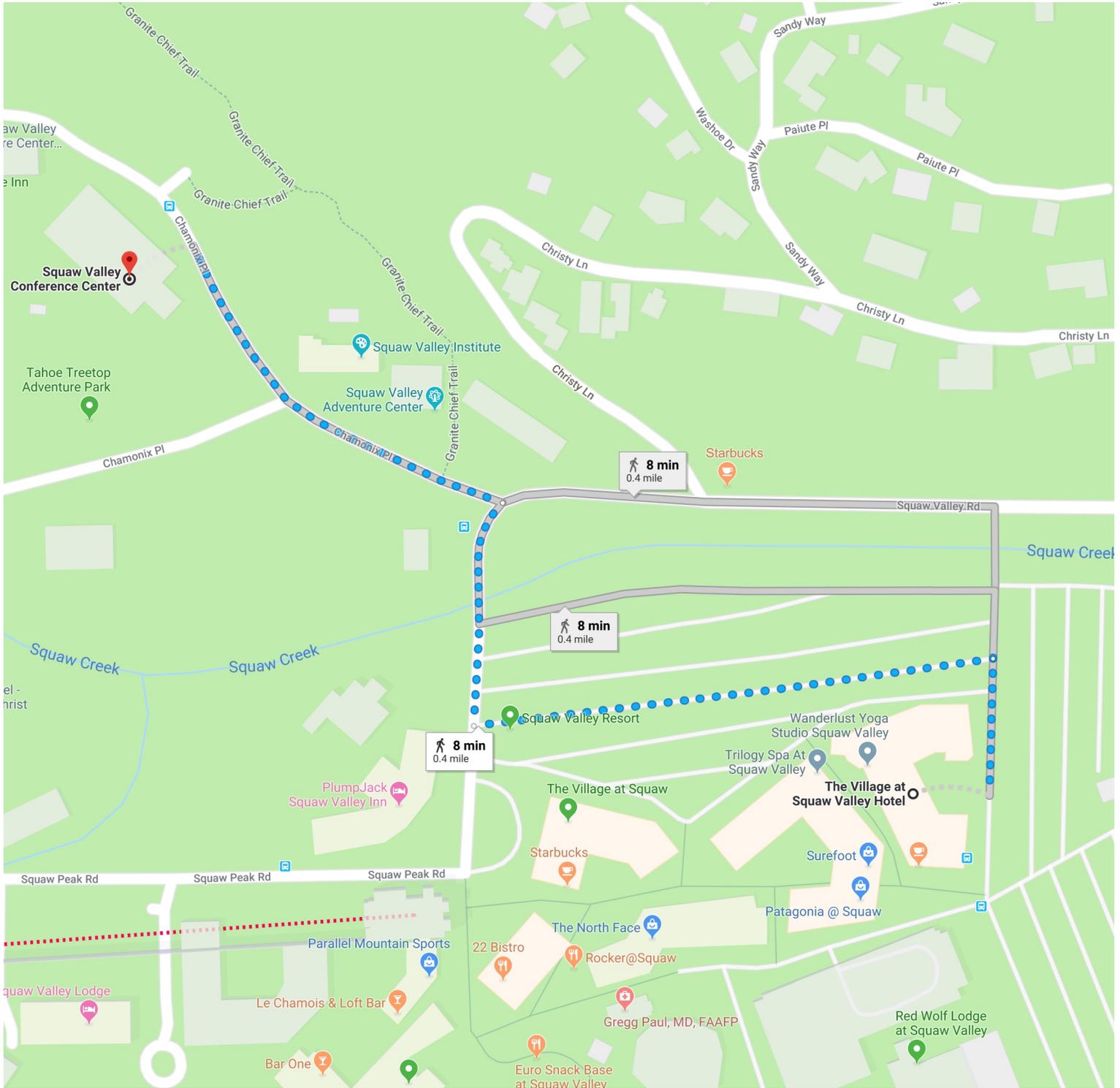


## P2 LEVEL PARKING



- GUEST PARKING
- EMPLOYEE PARKING
- RESTROOMS
- LODGING CHECK-IN
- STAIRS
- LODGING ENTRANCE
- HANDICAP PARKING

# DIRECTIONS TO SQUAW VALLEY CONFERENCE CENTER



**Monday, 8 April 2019**  
**Morning Session**

**Welcome**

- 8:15 - 8:30 Welcome and Introduction
- 8:30 - 9:15 Keynote: **The Real Side of Safety**  
Roy Tuscany

**Session 1: Epidemiology**

**Moderator: Robert Johnson**

- 9:15 - 9:30 **How Many Ski and Snowboard Injuries Occur in the US Per Year?**  
Jasper Shealy
- 9:30 - 9:45 **Snowsport Injury Trends in Western Canada for the Decade 2008-2009 to 2017-2018**  
Tracey Dickson
- 9:45 - 10:00 **Update on Head and Spinal Injury Trends Since 1992 in the French Ski Resorts**  
Jean Dominique Laporte

**Break**  
**10:00 AM - 10:15 AM**

- 10:15 - 10:30 **Skiing and Snowboarding Related Emergency Department Visits in California**  
Jasper Shealy
- 10:30 - 10:45 **Injury Patterns in Elite Youth Full-Time Alpine Ski Racers Over 2 Seasons**  
Sarah Wilson
- 10:45 - 11:00 **Distribution of Knee Injuries in Downhill Skiers Matching Group Age and Specific Diagnosis**  
Aleix Vidal
- 11:00 - 11:30 Panel Discussion on the Future of Snow Sports Safety  
A. Ekeland, R. Johnson, M. Lamont, J. LaPorte, H. Lystad, J. Shealy

**Free Time for Outdoor Activities**  
**(11:30 AM – 2:30 PM)**

**ISSS Board Meeting**  
**(12:00 PM – 1:00 PM)**



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**Monday, 8 April 2019**

**Afternoon Session**

## **Session 2: Risk and Resort Management**

**Moderator: John Rice & Mark Petrozzi**

- 2:30 - 3:15      **Keynote: State of the U.S. Ski Industry: Successes, Challenges, Myths & Trends**  
Dave Byrd and Mike Reitzell
- 3:15 - 3:30      **An Objective, Systematic, Criteria-Driven Approach to On-Slope Risk Management in the Mountain Resort Setting**  
Mark Petrozzi
- 3:30 - 3:45      **Terrain Park Injuries in Switzerland**  
Flavia Bürgi
- 3:45 - 4:00      **Practical Terrain Park Jump Design Based on Field Experience**  
Elia Hamilton and Jay Scambio
- 4:00 - 4:15      **Changing Dynamics of Pipe and Slopestyle Event Course Design and the Future of Resort Terrain Parks**  
Michael Bettera
- 4:15 - 4:30      Questions

**Break**  
4:30 PM - 4:45 PM

- 4:45 - 5:00      **A Controlled Study of Skier Compliance with Posted "Slow" Signs and Ski Patrollers**  
Erin Harley
- 5:00 - 5:15      **Snow Immersion Suffocation - Recent Trends**  
Paul Baugher
- 5:15 - 5:30      **AIOK: Towards the First AI Engine for Skiers Safety**  
Riccardo De Filippi
- 5:30 - 5:45      **Ski Patrol Database and the Visualisation of Injury Data**  
Benedikt Heer
- 5:45 - 6:00      **Assessing and Assuring Effective Safety Management at California Ski Resorts**  
Daniel Gregorie
- 6:00 - 6:15      Questions



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**Tuesday, 9 April 2019**

**Morning Session**

## **Session 3: Bindings**

**Moderator: Christoph Wurm and Helmut Holzer**

- 8:15 - 8:30 Introduction
- 8:30 - 9:15 **Keynote: International Standards for Ski Boots and Bindings: Two Steps Behind the Market?**  
Veit Senner
- 9:15 - 9:30 **Key Factors for an Accurate Ski Binding Setting in Switzerland**  
Flavia Bürgi
- 9:30 - 9:45 **Lateral-Heel Release Settings for Alpine Ski-Bindings that Address Abduction Loading**  
Rick Howell
- 9:45 - 10:00 **Sensing the Skier: Towards A Mechatronic Ski Binding**  
Aljoscha Hermann
- 10:00 - 10:15 Questions

**Break**  
**10:15 AM - 10:30 AM**

- 10:30 - 10:45 **Geometric Considerations for Alpine Touring Tech/Pin Systems**  
Irving Scher
- 10:45 - 11:00 **Quantification of Functional Parameters of Modern Alpine Touring Ski-Bindings in Interaction with the Touring Ski-Boot**  
Lorenz Hüper
- 11:00 - 11:15 **Directional Compression Tights Reduce Ground Reaction Force but Preserve Dynamic Stability During Alpine Skiing**  
Daniel Blake
- 11:15 - 11:30 **The Effect of Foot Setting on Kinematic and Kinetic Skiing Parameters of an Elite Paralympic Skier During Giant Slalom**  
Nicola Petrone
- 11:30 - 11:45 Questions

**Free Time for Outdoor Activities**  
**(11:45 AM – 3:00 PM)**

**National Secretaries Meeting**  
**(11:45 AM - 12:00 PM)**



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**Tuesday, 9 April 2019**

**Afternoon Session**

## **Session 4: Biomechanics**

**Moderator: Veit Senner**

- 3:00 - 3:15      **How the International Sports Engineering Association Supports Snow Sport Safety**  
Chloe Newton - Mann
- 3:15 - 3:30      **Analysis of Knee Kinematics During Skiing and Simulated Risky Maneuvers Using an Instrumented Knee Brace**  
Barnaba Marchesini
- 3:30 - 3:45      **The Effect of Canting on Knee Moments in Recreational Alpine Skiers**  
Sarah Wilson
- 3:45 - 4:00      **Effects of Common Ski Boot Adjustments on Balance in Recreational Alpine Skiers**  
Sarah Wilson
- 4:00 - 4:15      **The Effects of Ski Boots on uCOF and Knee Kinematics During Walking**  
Jonathan Lee
- 4:15 - 4:30      Questions

**Break**

**4:30 PM - 4:45 PM**

## **Session 5: Snow Park Jump Modeling**

**Moderator: Irving Scher**

- 4:45 - 5:00      **Towards More Valid Simulations of Slopestyle and Big Air Jumps**  
Matthias Gilgien
- 5:00 - 5:15      **Towards More Valid Simulations of Slopestyle and Big Air Jumps: Aerodynamics During In-Run and Flight Phase**  
Fabian Wolfsperger
- 5:15 - 5:30      **Towards More Valid Simulations of Slopestyle and Big Air Jumps: Snow Friction During In-Run**  
Fabian Wolfsperger
- 5:30 - 5:45      **Accessible, Open-Source Computational Analysis and Design of Terrain Park Ski Jumps**  
Mont Hubbard
- 5:45 - 6:00      Questions



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Thursday, 11 April 2019  
Morning Session

## Session 6: Biomechanics II

Moderators: Nicola Petrone and Werner Nachbauer

- 8:15 - 8:30 Introduction
- 8:30 - 9:15 Keynote: **Current State of the Science in Helmet Technology Related to Winter Sports**  
Rick Greenwald
- 9:15 - 9:30 **Evaluating Helmet Performances During a Head-Snow Impact**  
Nicolas Bailly
- 9:30 - 9:45 **Modeling Skier Kinematics During Falls: Examining the Effect of Catching an Edge**  
Irving Scher
- 9:45 - 10:00 **A 3D Musculoskeletal Simulation Model for Alpine Skiing**  
Martin Mössner
- 10:00 - 10:15 Questions

Break  
10:15 AM - 10:30 AM

- 10:30 - 10:45 **Inverted Impacts onto Snow Park Air Bags: Potential for Severe Head and Neck Injury**  
Lenka Stepan
- 10:45 - 11:00 **Can Safety Hurt: Examining Injury Potential in B-net Impacts Using MADYMO Simulations**  
Darrin Richards
- 11:00 - 11:15 **Factors Influencing Variability of Safety Mattress Performances: Preliminary Results**  
Marine Dorsemaine
- 11:15 - 11:30 **The Influence of Directional Compression Tights on Muscle Function During Three Consecutive Days of Alpine Skiing**  
John Seifert
- 10:30 - 10:45 Questions

Free Time for Outdoor Activities  
(11:30 AM – 3:00 PM)

General Assembly Meeting  
Members Only  
(11:45 AM - 12:00 PM)



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**Thursday, 11 April 2019**

**Afternoon Session**

## **Session 7: Upper Extremity**

**Moderator: Michael Lamont**

- 3:00 - 3:15      **Progress and Challenges in Developing a Standard for Snowboard Wrist Protectors**  
Tom Allen
- 3:15 - 3:30      **Comparison of a Finite Element Model for Snowboard Wrist Protectors Against an Impact Test**  
Chloe Newton-Mann
- 3:30 - 3:45      **Development of a Tissue Simulant to Improve Assessment of Snowboarding Wrist Protectors**  
Gemma Leslie
- 3:45 - 4:00      **Thumb Protection System**  
Casper Smit
- 4:00 - 4:15      **Acromio-Clavicular Injuries. Prevalence at Our Ski Resort**  
Aleix Vidal
- 4:15 - 4:30      Questions

**Break**

**4:30 PM - 4:45 PM**

## **Session 8: Other Mountain Activities**

**Moderator: Jasper Shealy**

- 4:45 - 5:00      **The Nica Injury Surveillance System: Injuries in Youth Mountain Bike Racing**  
Stuart Willick
- 5:00 - 5:15      **An Epidemiological Study of Mountain Biking Injuries Treated in Emergency Departments in the United States**  
Denise Cruise
- 5:15 - 5:30      **Acquisition and Analysis of Rider-Bicycle Interactions During Downhill Trail Jumps**  
Nicola Petrone
- 5:30 - 5:45      **Quantifying Snow Tube Deceleration Techniques: A Preliminary Study of Deceleration Mats**  
Lenka Stepan
- 5:45 - 6:00      Questions



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**Friday, 12 April 2019**  
**Morning Session**

**Session 9: Injury Risk Prediction and Reduction**  
**Moderator: Anne Terwiel and John Seifert**

- 8:15 - 8:30 Introduction
- 8:30 - 9:15 **Keynote: Looking Beyond Injuries: Will a "Social License to Operate" Benefit Snowsports?**  
Tracey Dickson
- 9:15 - 9:30 **Do Low-Priced Ski Passes Lead to an Increase in Participation and Health Promotion? A Case Study of the Leisure Card Tirol**  
Philipp Schlemmer
- 9:30 - 9:45 **Trend of the Situation of Skiing and Trauma Injuries in Japan**  
Yukio Urabe
- 9:45 - 10:00 **Participants' Perceptions of Contributing Factors in Snowsport Terrain Park Falls and Injury**  
Tracey Dickson
- 10:00 - 10:15 **A Review of Safety Aspects of Contact Features in the Terrain Park**  
Charles Roberts
- 10:15 - 10:30 Questions

**Break**  
**10:15 AM - 10:30 AM**

- 10:45 - 11:00 **Attempt to Predict Injuries of Female Junior Alpine Ski Racers on the Basis of Fitness Parameters**  
Werner Nachbauer
- 11:00 - 11:15 **Injury Risk Reduction of Professional Ski Instructors**  
Michael Decker
- 11:15 - 11:30 **Changes in Somatosensory Scores in Elite Adolescent Snowsport Participants After 11 Weeks of Training and Racing**  
Tracey Dickson and Anne Terwiel
- 11:30 - 11:45 **Changes in Somatosensory Scores in Snowsport Professionals After 4 Weeks of Dryland Training: Research in the Real World**  
Tracey Dickson and Anne Terwiel
- 11:45 - 12:00 Questions

**Free Time for Outdoor Activities**  
**(12:00 PM - 2:30 PM)**



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**Friday, 12 April 2019**

**Afternoon Session**

## **Session 10: Technology**

**Moderator: Tom Allen**

- 2:30 - 2:45      **Auxetic Foam to Reduce Injuries Caused by Unpredictable Collisions in Mountain Sports**  
Oliver Duncan
- 2:45 - 3:00      **Ski Binding Suspension System for Vertical Load Transmission**  
Chris Brown
- 3:00 - 3:15      **Advances in the Study of Concussion Mechanism Using an Instrumented Human Head Surrogate**  
Nicola Petrone
- 3:15 - 3:30      **The Effect of Different Garment Fabrics on the Speed in Alpine Skiing**  
Michael Hasler
- 3:30 - 3:45      **Sit Ski with Dynamic Controls**  
Chris Brown
- 3:45 - 4:00      Questions

**Break**  
4:00 PM - 4:15 PM

## **Session 11: Treatment and Health Outcomes**

**Moderator: Harald Lystad**

- 4:15 - 4:30      **Similar Risk of ACL Graft Revision for Alpine Skiers, Football and Handball Players, but Those  $\leq 18$  Years Had 5 Times Higher Rate of Graft Revision than Those  $\geq 35$  Years**  
Arne Ekeland
- 4:30 - 4:45      **Lessons Learned from 2018 Pyeong-Chang Winter Olympic Games: What You Have to Pack in Your First Aid Back Pack for Ski Alpine Race**  
Seung Zhoo Yoon
- 4:45 - 5:00      **Field of Play Medical Service for the Alpine Ski Speed Event in the 2018 Pyeongchang Winter Olympic Games**  
Seung Pyo Eun
- 5:00 - 5:15      Questions

**Conference Banquet**  
7:00 PM - 10:00 PM



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