



# **10<sup>th</sup> INTERNATIONAL CONGRESS ON SCIENCE AND SKIING**

January 28 - February 1, 2025  
Val di Fiemme, Italy

**PROGRAMME**

the 10<sup>th</sup> INTERNATIONAL CONGRESS ON SCIENCE AND SKIING 2025 is organized by



UNIVERSITÀ  
di **VERONA**



UNIVERSITÀ DEGLI STUDI  
DI TRENTO

# Welcome

On behalf of the organizing and scientific committees, we warmly welcome all participants to the 10<sup>th</sup> International Congress on Science and Skiing.

After numerous successful editions in Austria, USA, and Finland, this congress will be hosted in Italy for the first time. Val di Fiemme, the hosting region, is well known for cross-country skiing and will host the Olympic and Paralympic Winter Games in 2026 for most Nordic disciplines. Its excellent alpine skiing area will also delight enthusiasts of wider skis.

The organizing committee has worked to maintain the high standard of scientific and social programs that attendees of previous editions have come to expect.

The scientific program includes: 1 honor speech by Professor Erich Müller; 4 keynote speeches presented by Kirsty Elliot-Sale (UK), Øyvind Sandbakk (NOR), Marco Narici, (ITA) and Jörg Spörri (SWI).

The program will be excellently complemented by more than 100 presentations: 7 invited speeches; 15 oral sessions covering various topics; a poster session featuring 3-minute podium presentations.

Continuing a long-standing tradition of the congress, young researchers will be recognized through the Young Investigator Award (YIA), which includes both poster and oral presentations.

The social events included in the program will enhance opportunities for exchange within the skiing science community. In a world where it has become increasingly easy to organize online meetings across the globe, we still believe that meeting in person opens unique opportunities. A casual chat, whether over a good meal or on a chairlift, can transform into an important and lasting academic connection.

The programme includes a welcome cocktail, lunches and a congress dinner; all good occasions to taste typical Italian food from the alpine region.

For those who enjoy endurance sports, there is the opportunity to participate in the Marcialonga, held on the Sunday preceding the congress week. Two mornings of alpine skiing are included in the congress program offering participants the privilege of enjoying the wonderful slopes of the Val di Fiemme area. The Olympic site in Lago di Tesero will host the Paralympic pre-Olympic competitions during the days of the congress, offering a unique opportunity to see the site prepared for the upcoming Winter Games.

None of this would have been possible without the support of the CeRiSM staff, the scientific committees, the executive board, numerous partners and organizations that provided their endorsement, and the companies that sponsored the event. To all of them, we extend our deepest gratitude.

We are truly looking forward to providing a pleasant experience and a stimulating congress for all participants, whether they are veterans of numerous previous editions or are attending the ICSS congress for the very first time.

*Federico Schena and Barbara Pellegrini (Presidents of the Congress)*

*Lorenzo Bortolan (Chair of the Organizing Committee)*

## General information scientific programme

### The scientific programme in a glance

The programme of the 10<sup>th</sup> ICSS 2025 will comprise 1 honor speech, 4 keynote session, 7 invited speech, 15 oral session on different topics and a poster session with 3 minutes from the podium presentation.

### Congress Venue

Starting from the 29th, the conference venue will be the **Palafiemme Congress Center**, located at Via Fratelli Bronzetti, 64, Cavalese.

On the 28th, the conference will take place at the Tesero theater. A shuttle bus will connect the two venues throughout the afternoon, providing round-trip transportation.

### Technical Exhibition

Companies will have their booths in the main hall from January 29 to February 1, allowing attendees to view and explore their products and solutions dedicated to sport science and practice.

### Young Investigator Award

The **Young Investigator Award (YIA)** will be granted to the top 3 oral and top 3 poster presentations. The commission has evaluated the submitted abstracts and will assess the presentations during the congress.

The winners will be announced during the closing ceremony of the congress.

### Lunches and coffee breaks

Lunches and breakfast included in the programme will be served in the main hall.

## Presenter guidelines

### Oral presentation guidelines

The length of oral presentation is 12 minutes, followed by 3 minutes for discussion. Please note that the Chairman will ensure presentations stay within the time limit and may stop speakers who exceed it.

### Poster presentation guidelines

**Printed Poster Format:** The suggested size for conventional print posters is A0 (Height: 120 cm, Width: 90 cm) in portrait (vertical) format. Posters should be displayed on the designated poster board on the morning of January 29 and removed at the congress end. Patches will be provided on-site.

To enhance visibility, a **3-minute slide** presentation from the podium with 3-4 PowerPoint slides will be held on the afternoon of January 29. Presenters are then required to be available for questions during the following coffee break. This presentation is mandatory for participants in the Young Investigator Award (YIA) category.

### Slides upload for oral and poster presentations

For both oral and poster, **PowerPoint files (16:9) must be saved on a USB device and pre-loaded onto the organization's computer** at least 1 hour before the session begins. If uncommon fonts have been used, please ensure they are embedded within the file to avoid display issues.

On January 28, please refer to the registration desk. From January 29 onward, please go to the speaker ready room.

## General Information on social programme

**Day 1 – January 28, Tuesday, 19:00 – 21:00**

**Welcome party – Teatro di Tesero**

Food and music to warmly welcome all participants.

**Day 3 - January 30, Thursday, 20:00 – 22:30**

**Congress dinner – Maso dello Speck, Daiano**

Participants will have the opportunity to enjoy delicious Italian food served in a typical *maso* 10 min driving from Cavalese.

A bus will transport participants to the starting point of a scenic forest walk, which will take approximately 15 minutes along a gently sloping trail. It is recommended to wear sports shoes. The trail is quite easy and will be marked by luminous points, but it might still be advisable to bring headlamps.

For those who prefer not to walk and do not have access to a car, please inform the registration desk. The organization will arrange transportation directly to the restaurant parking lot.

Buses will depart from Palafiemme, Cavalese.

**Day 5 –February 1 Saturday, 13:00 – 14:00**

**Farewall lunch – Palafiemme Cavalese**

A farewell lunch to say goodbye, finalize the last collaboration agreements and scientific discussion, and, of course, because you should never leave on an empty stomach....

## Information on alpine skiing activity

All congress attendees will have the chance to enjoy two half days of alpine skiing. The ski passes will be distributed at the start of the slopes by members of the staff.

**Day 3- January 30, Thursday 8.30 – 13.00**

**Skiing in the Latemar area**

A Bus will start by Palafiemme and will bring the participants to Pampeago. The time of the departure from and To cavalese will be communicated during the congress and on the website.

By presenting their badges, congress participants can benefit from a discounted price for lunch at 'Rifugio Zischgalm'.

**Day 4 - January 31, Friday 8.30 – 13.30**

**Skiing in the Alpe Cermis area**

The meeting point will be the lift station in Cavalese.

By presenting the Congress badge, attendees can enjoy food and drinks at Rifugio Paion with a 10% discounted rate.

### Ski rental

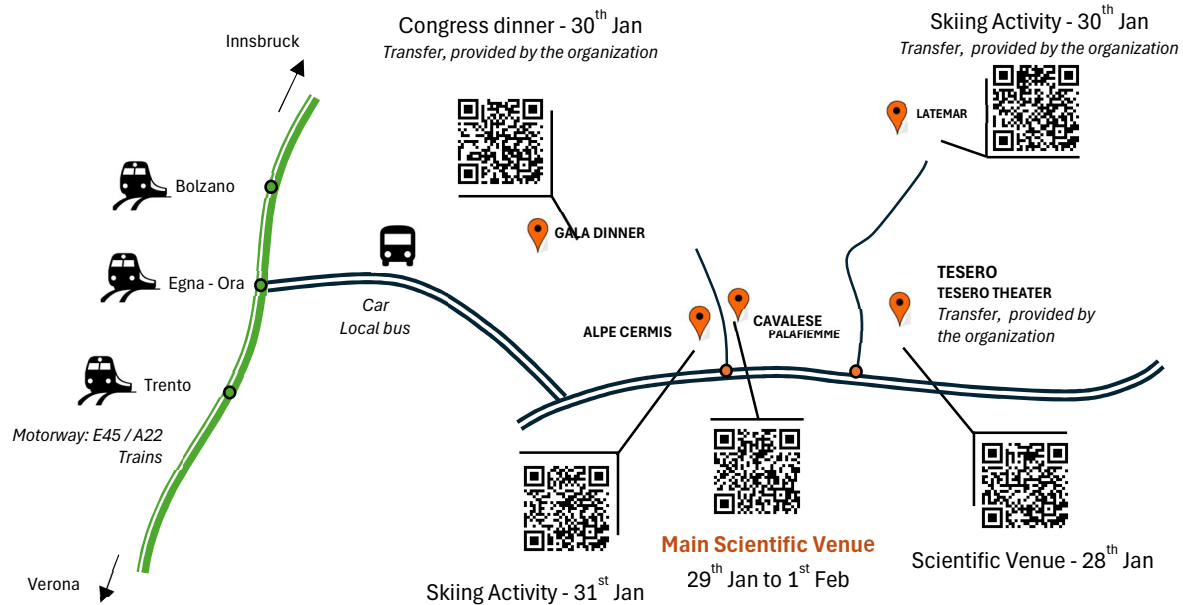
Special prices for ski and boot rentals can be obtained by presenting your Congress badge:

**Day 3:** Special offers are available at Noleggio Sport Ventura Special in Pampeago.

**Day 4:** A 10% discount is provided at Sport Cermis, located at Via Cermis 2, near the cable lift station in Cavalese.

## How To Reach ICSS 2025 Venues

Use the QRcode to get Google Maps address



### Scientific Programme

**Tesero Theatre:** Via Noval, 5, 38038 Tesero TN

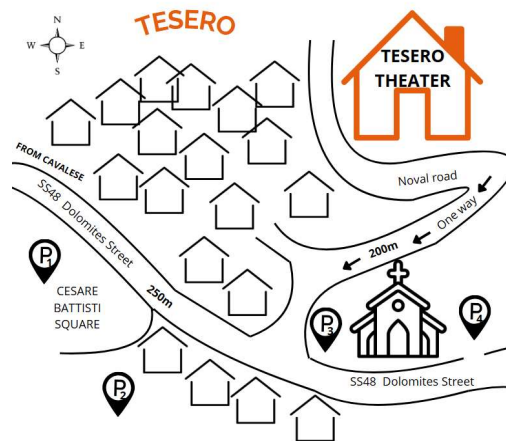
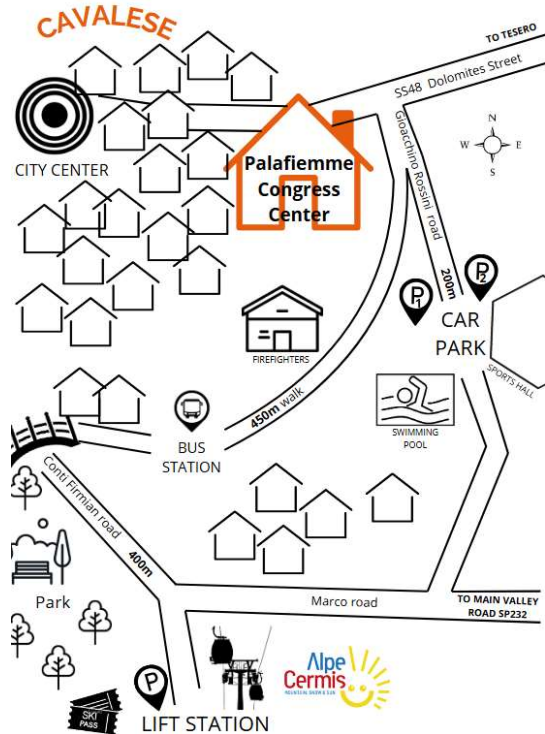
**Palafiemme:** Via Fratelli Bronzetti, 64, 38033 Cavalese TN

### Social Programme

**Skiing : Alpe Cermis:** Via Cermis 2, 38033 Cavalese TN, [www.alpecermis.it](http://www.alpecermis.it)

**Gala dinner:** Tito Speck - **Maso dello Speck**, Pozze di Sopra, 2, 38030 Daiano TN

**Skiing: Latemar:** Località Pampeago, 38038 Tesero TN, <https://www.latemar.it/>



## Organization

### ICSS 2025 - Local Scientific committee

**Barbara Pellegrini** - President, CeRiSM, University of Verona

**Federico Schena** - President, CeRiSM, University of Verona

**Alexa Callovini** - University of Verona

**Lorenzo Bortolan** - University of Verona

**Paolo Bouquet** - University of Trento

**Alessandro Fornasiero** - University of Verona

**Roberto Modena** - University of Verona

**Anna Pedrinolla** - University of Trento

**Aldo Savoldelli** - University of Trento

**Chiara Zoppirotti** - University of Verona

### ICSS 2025 - Organizing committee

**Lorenzo Bortolan** - Chair, CeRiSM, University of Verona

**Simone Bettega** - University of Verona

**Ferdinando Calcagno** – University of Verona

**Giorgia Celeste Cuniberti** - University of Verona

**Tobia Forrer** - University of Verona

**Michele Mattivi** - University of Verona

**Martina Palumbo** - University of Verona

**Laura Spreti** - University of Verona

**Beatrice Todesco** - University of Verona

**Gianluca Viscioni** - University of Verona

### ICSS - Executive board

**Barbara Pellegrini** (President, CeRiSM, University of Verona, ITA)

**David Bacharach** (St. Cloude State University, MN, USA)

**Hans-Christer Holmberg** (Karolinska Institutet, Stockholm, SWE;

University of British Columbia, Vancouver, CAN)

**Lisa Steidl-Müller** (University of Innsbruck, AUT)

**Thomas Stöggl** (University of Salzburg, AUT)

**Vesa Linnamo** (University of Jyväskylä, FIN)

### ICSS 2025 - YIA committee

**Patricia K Doyle-Baker - Chair** (University of Calgary, CAN)

**David Bacharach** (St. Cloude State University, MN, USA)

**Nicola Petrone** (University of Padua, ITA)

**Øyvind Sandbakk** (UiT The Arctic University, NOR)

**Matej Supej** (University of Ljubljana, SLO)

**Chiara Zoppirotti** (University of Verona, ITA)

### Congress Organizing and Scientific Office

Contact for scientific programme and sponsorship:

**CeRiSM - University of Verona and Trento**

e-mail: [icss2025@ateneo.univr.it](mailto:icss2025@ateneo.univr.it)

### Congress Registration Office

Contact for congress registration:

**GI.A.DA srls**

e-mail: [skiscience2025@gmail.com](mailto:skiscience2025@gmail.com)



**Theatre - (Tesero)**

Shuttle Bus from Palafiemme Cavalese

<b>Invited speech</b>		Tue 28 <sup>th</sup> Jan
Chair: Guro Strøm Solli		Norway
14:00	Canadian Female performance in alpine ski racing: how they "train to train".  <i>Patricia Doyle-Baker</i>	Canada
<b>Oral session:</b> Performance Factors: Physiological, Biomechanical, Technical - part 1		Tue 28 <sup>th</sup> Jan
Chair: Guro Strøm Solli		Norway
14:30	Different approaches to analyze start strategies of world cup racers in alpine ski racing  <i>Peter Spitzenpfel</i>	Germany
14:45	Estimating race time differences from technical boosting in para nordic sit-skiing with simulations  <i>Julius Lidar</i>	Sweden
15:00	Company: Qualysis	



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**Theatre - (Tesero)**

Shuttle Bus from Palafiemme Cavalese

Invited speech		Tue 28 <sup>th</sup> Jan
Chair: Patricia Doyle-Baker		Canada
15:45	The Female Skier: Current Insights and Future Directions	
	<i>Guro Strøm Solli</i>	Norway
Oral session: Performance Factors: Physiological, Biomechanical, Technical - part 2		Tue 28 <sup>th</sup> Jan
Chair: Patricia Doyle-Baker		Canada
16:15	Analysis of exercise intensity distribution and shooting performance in a summer biathlon sprint race	
YIA	<i>Martina Palumbo</i>	Italy
16:30	Biological maturity and performance in youth alpine	
YIA	<i>Giulia Pellizzati</i>	Italy
16.45	Physical fitness factors for roller skiing race performance	
YIA	<i>Shunya Uda</i>	Japan
17:00	Special session: Milano - Cortina 2026	Tue 28 <sup>th</sup> Jan
18:00	OPENING CERIMONY	Tue 28 <sup>th</sup> Jan
18:45	WELCOME PARTY	Tue 28 <sup>th</sup> Jan

### Room "Cermis"

<b>Keynote</b>	Wed 29 <sup>th</sup> Jan
Chair: Patricia Doyle-Baker	Canada
08:45 Ovarian hormones: Friend or foe of female Olympians?	
<i>Kirsty Elliot-Sale</i>	United Kingdom

<b>Invited speech</b>	Wed 29 <sup>th</sup> Jan
Chair: Hans-Christer Holmberg	Sweden
09:30 Trends, perspectives, opportunities and challenges with sensor technology in wintersports	
<i>Thomas Stöggl</i>	Austria

<b>Oral session: Testing: Technologies and Methodologies - part 1</b>	Wed 29 <sup>th</sup> Jan
Chair: Thomas Stöggl	Austria
10:00 Multi-camera framing of dry slope snowboarding jumps	
YIA <i>Robbe Decorte</i>	Belgium
10:15 Reproducibility of cortical somatosensory evoked potentials in cross-country skiing: a proof-of-concept study	
<i>Harri Piitulainen</i>	Finland
10:30 Physiological demands and performance predictors of Olympic ski-mountaineering	
<i>Alessandro Fornasiero</i>	Italy

## Room "Cermis"

<b>Oral session:</b> Testing: Technologies and Methodologies - part 2		Wed 29 <sup>th</sup> Jan
Chair: Thomas Stöggel		Austria
11:15	Near-infrared-spectroscopy derived vs lactate thresholds in elite Nordic skiers	
YIA	<i>Jonas Forot</i>	France
11:30	Electromyographic thresholds are expressed in the double-poling in cross-country skiers	
	<i>Masaki Takeda</i>	Japan
11:45	Whole-body vibration transmission during resistance vibration exercise and artificial gravity: a "ski simulator" as a potential exercise device for the mission to Mars	
YIA	<i>Riccardo Sorrentino</i>	Slovenija
12:00	A comparison of the reliability of force-velocity profiling methods using linear position transducers in winter sports	
	<i>Cory James Synder</i>	Austria
12:15	Company: Skisens	

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XC-SKIING TREADMILL SKIERG

## Room "Cermis"

<b>Invited speech</b>		Wed 29 <sup>th</sup> Jan
Chair: Barbara Pellegrini		Italy
13:30	Laboratory and field testing integration for a better understanding of biathlon performance <i>Chiara Zoppirolli</i>	Italy
<b>Oral session: Performance and Technique Analysis in Biathlon</b>		Wed 29 <sup>th</sup> Jan
Chair: Chiara Zoppirolli		Italy
14:00	A static hold test can assess stability of hold and postural control for biathlon prone shooting	
YIA	<i>Miika Kōykkä</i>	Finland
14:15	Physiologic effects of changing rifle carry position in elite biathletes	
YIA	<i>Ethan Livingood</i>	USA
14:30	Visual requirements and shooting performance of the elite biathlete <i>Vesa Linnamo</i>	Finland
14:45	Roller ski interval training in biathletes: assessing whether athletes meet high-intensity targets on the track <i>Simone Bettega</i>	Italy
15:00	IBU Academy: Advancing Biathlon through Education, Research, and Dual-Career Development <i>Gerold Sattlecker</i>	Austria



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## Room "Cermis"

Poster session			Wed 29 <sup>th</sup> Jan
Char: Patricia Doyle-Baker (CAN)			15:15 - 16:15
	Multi-segment skier model for simulating falls at high speed	<i>Piotr Aschenbrenner</i>	Poland
	Movement frequency and performance level during alpine skiing and testing exercises in young skiers	<i>Andrea Besseghini</i>	Italy
	Differences in kinematic parameters of alpine skiing turns between skiers of different skill levels	<i>Ivan Bon</i>	Croatia
	Smart competitions in alpine skiing – a pilot study	<i>Björn Bruhin</i>	Switzerland
	Influence of special life circumstances on the risk of injury in alpine skiing - a study of athletes on the German ski association's development-team	<i>Maren Goll</i>	Germany
	Modifications to the nanoindentation test platform for measuring the mechanical properties of ice and compacted snow	<i>Karlis Agris Gross</i>	Latvia
YIA	Ski wax distribution at the surface of cross-country skis	<i>Pauline Lefebvre</i>	France
	A new electronic rifle range and shooting laboratory for biathlon training and research	<i>Antti Leppävuori</i>	Finland
	Choosing ski length: how mechanical properties evolve across length and width	<i>Alexis Lussier Desbiens</i>	Canada
	Technique analysis of a 50-km cross-country ski marathon race using high-precision kinematic GNSS	<i>Masaki Takeda</i>	Japan
	Characterizing Propulsion Pole Forces in Ski Mountaineering on Snow	<i>Beatrice Todesco</i>	Italy
	A supervised machine learning approach for Technique Identification in Cross-Country Skiing Using Pole-Embedded IMU Sensors	<i>Gianluca Viscioni</i>	Italy

	Diagnostics of strength abilities of paralympic athletes	<i>Kamil Povraznik</i>	Slovakia
YIA	Sex differences in elite ski mountaineering aerobic performance	<i>Forrest Schorderet</i>	Switzerland
YIA	The effect of course design on the number of rank shifts in skicross world cup for women and men	<i>Linda Tomelleri</i>	Norway
YIA	Acute fatigue effects of two different plyometric jumps on landing ground reaction force, time to stabilization, jump height and inter-limb functional asymmetry	<i>Nicola Trotta</i>	Italia
YIA	Physiological responses to heat stress during summer jump training in snowboarders	<i>Risa Iwata</i>	Japan
	The process of psychological training for the alpine skiing instructors - the role of the coach developer	<i>Marcin Krawczyński</i>	Poland
	Better estimation of skills level in recreational skiing: development and validation of a practical multidimensional instrument	<i>Floriana Samantha Luppino</i>	The Netherlands
	From ski mountaineering to unraveling DOMS mechanisms	<i>Lorenzo Visconti</i>	Belgium
	Avoiding mode-monotony: how world-class cross-country skiers use exercise mode variations to manage daily load	<i>Jacob Walther</i>	Germany
	Metabolic responses in the annual training cycle of highly trained cross-country skiers	<i>Alexandra Lyudinina</i>	Russia

## Room "Cermis"

<b>Honor speech</b>		Wed 29 <sup>th</sup> Jan
Chair: Dave Bacharach		USA
16:45	ICSS 1996 – 2025: Science in skiing, past – present – future!	
	<i>Erich Müller</i>	

<b>Invited speech</b>		Wed 29 <sup>th</sup> Jan
Chair: Federico Schena		Italy
17:45	Do women have to train differently in altitude ?	
	<i>Gregoire Millet</i>	Switzerland

<b>Oral session: Physiological Insights in Skiing Disciplines</b>		Wed 29 <sup>th</sup> Jan
Chair: Gregoire Millet		France
18:15	Beyond the classical “living high” paradigm in winter sports: lessons from summer sports <i>Franck Brocherie</i>	France
18:30	Spinal and supraspinal excitability during cross-country skiing using V2 skating technique <i>Magdalena Karczewska-Lindinger</i>	Italy
18:45	Longitudinal analysis of aerobic performance indicators in elite cross-country skiers: age- and sex-dependent trajectories across the career <i>Elias Bucher</i>	Switzerland
19:00	Higher energy availability may support hemoglobin mass adaptation during a 21-day period at normobaric hypoxia and normoxia in female skiers <i>Oona Kettunen</i>	Finland

## Room "Latemar"

<b>Oral session: Testing: Technologies and Methodologies - part 3</b>		Wed 29 <sup>th</sup> Jan
Chair: Matej Supej		Italy
18:15	AI-racer: an immersive AI-enabled VR-tool for alpine ski racing <i>Martin J. Bünner</i>	Switzerland
18:30	Objectification of the results of the agility-test through the use of AI methods <i>Andreas Huber</i>	Germany
18:45	Trajectory filtering and jump modelling in ski cross VR-application <i>YIA Samuel Schwyn</i>	Switzerland



### Room "Cermis"

<b>Invited speech</b>		Thu 30 <sup>th</sup> Jan
Chair: Nicola Petrone		Italy
14:45	The effect of course design on surrogate measures of injury risk in women and men world cup skicross  <i>Matthias Gilgien</i>	Norway
<b>Oral session:</b> Injury Prevention and Risk Management in Skiing		Thu 30 <sup>th</sup> Jan
Chair: Dave Bacharaach		USA
15:15	Ski binding performance, biomechanics, testing, and engineering design  <i>Christopher Brown</i>	USA
15:30	Validation of a biofidelic sensorized knee for ski fall simulations in a dynamic multiaxial test bench  <i>Nicola Petrone</i>	Italy
15:45	Managing the malaligned skier on and off hill  <i>Carl Petersen</i>	Canada

### Room "Latemar"

<b>Oral session:</b> Biomechanics in Olympic and Paralympic Nordic Skiing		Thu 30 <sup>th</sup> Jan
Chair: Barbara Pellegrini		Italy
14:45	3D kinematic and mechanical energy in freestyle cross country skiing (XCS) during sprint world cup races  <i>Arrigo Canclini</i>	Italy
15:00	Influence of pole length on metabolic and kinematic outcomes in cross country sit skiers  YIA <i>Sage Blickensderfer</i>	USA
15:15	The effect of sitting position on sit-ski performance on a treadmill and in a ski ergometer - cycle characteristics and physiological parameters: a case study  YIA <i>Ville Sampolahti</i>	Finland
15:30	A study of takeoff motion in ski jumping using principal component analysis and computational fluid dynamics  YIA <i>Shin Ikeda</i>	Japan
15:45	Technique adaptation at varying friction in cross-country ski skating  YIA <i>Gustav Hindér</i>	Sweden

## Room "Cermis"

Keynote		Thu 30 <sup>th</sup> Jan
Chair: Thomas Stöggli		Austria
16:30	The Development Process of Bringing Junior Talents to the World-Class Stage in XC Skiing	
	<i>Øyvind Sandbakk</i>	Norway

Oral session: Coaching and Skill Development		Thu 30 <sup>th</sup> Jan
Chair: Øyvind Sandbakk		Norway
17:15	Coaching snowboard tricks: do biomechanical data align with expert insights?	
	<i>Lina Fay</i>	Germany
17:30	Freeskiers' self-organized and unique pathways to world-class performance in big air	
	<i>Espen Berg-Johnsen</i>	Norway
17:45	Development of the performance structure model in snowboard slopestyle and big air	
	<i>Hiroki Ozaki</i>	Japan
18:00	Perceptions of mental skill development in youth snow sports athletes: a qualitative interview study	
	<i>Philippe O Müller</i>	Switzerland

## Room "Latemar"

Oral session: Biomechanics in Ski Mountaineering		Thu 30 <sup>th</sup> Jan
Chair: Lorenzo Bortolan		Italy
17:15	Mechanical energy and kinematics of diagonal stride technique in world cup ski mountaineering races	
	<i>Renzo Pozzo</i>	Italy
17:30	Advancing Ski Mountaineering Gait Analysis: Measuring Step Frequency and Contact Time on a Treadmill with Accelerometers	
	<i>Matej Majerič</i>	Slovenia
17:45	Comparative kinematic analysis of ski-mountaineering boots reveals performance-influencing joint mechanics	
YIA	<i>Michele Mattivi</i>	Italy
18:00	Short or Long? Analyzing the Impact of Ski Pole Length on Elite Ski Mountaineers' Efficiency	
YIA	<i>Nina Verdel</i>	Slovenia

## Room "Cermis"

<b>Invited</b>		Fri 31 <sup>st</sup> Jan
Chair: Veit Senner		Germany
14:45	Evolution of Biomechanical Measurement in Alpine Skiing: The Outdoor Laboratory Beyond Milan Cortina 2026 <i>Matej Supej</i>	Slovenia

<b>Oral session: Biomechanics in Alpine Skiing</b>		Fri 31 <sup>st</sup> Jan
Chair: Veit Senner		Germany
15:15	3D ski boot deformation from distributed IMUs	
YIA	<i>Alexis Lussier Desbiens (Samuel Dallain)</i>	Canada
15:30	Reliability of systems for skier biomechanics analysis: from lab testing to on-slope performance	
YIA	<i>Giorgia Celeste Cuniberti</i>	Italy
15:45	Beyond the carving-skidding dichotomy: sensor-assisted measurement of angle of attack in skiing	
YIA	<i>Christoph Thorwartl</i>	Austria
16:00	Edge angle estimation using IMUs – an in-field validation approach using AI pose estimation	
YIA	<i>Chris Hummel</i>	Germany
16:15	New Developments in Optical Motion Capture for Winter Sports	
	<i>Company presentation: SIMI - Thomas Hock</i>	Germany



## Room "Cermis"

<b>Keynote</b>	Fri 31 <sup>st</sup> Jan
Chair: Federico Schena, Vesa Linnamo	Italy, Finland
17:00	Neuromuscular adaptations to strength training
	<i>Marco Narici</i> Italy

<b>Oral session: Advances in Ski Materials and Design</b>	Fri 31 <sup>st</sup> Jan
Chair: Nicola Petrone	Italy
17:45	Vibration-optimized design to improve safety-related performance
	<i>Veit Senner</i> Germany
18:00	Complete recycling of skiing by selective dissolution in bio-based solvents with a fully circular approach
	<i>Martino Colonna</i> Italy
18:15	Ski profile characterization using different methods
	<i>Joakim Sandberg</i> Sweden
18:30	Alpine skis categorization and on-snow performance prediction from mechanical measurements
	<i>Alexis Lussier Desbiens</i> Canada
18:45	Advanced materials in ski design
YIA	<i>Alberto Sancho</i> Spain

## Room "Latemar"

<b>Oral session: Perspectives on Health, well being and Leisure in Skiing</b>	Fri 31 <sup>st</sup> Jan
Chair: John Seifert	USA
17:45	Mental health benefits of a one-week, ski-based exercise intervention for primary brain tumor patients and their caregivers
	<i>Nora Hansel</i> Germany
18:00	A qualitative study on leisure involvement and well-being in skiing - insights from qualitative research on ski enthusiasts and instructors
YIA	<i>Taro Aihara</i> Japan
18:15	Current status of small ski areas in Hokkaido: management base and its usage
YIA	<i>Shumpei Kurosawa</i> Japan
18:30	Level of overestimation among Dutch recreational skiers: unskilled tourists in the mountains
	<i>Florian Samantha Luppino</i> The Netherlands
18:45	About the concept and effects of alpine skiing as a sport therapy project with childhood cancer survivors
	<i>Nicolas Kurpiers</i> Germany

## Room "Cermis"

Invited		Sat 1 <sup>st</sup> Feb
Chair: Matej Supej		Slovenia
08:30	Optimising ski performance: a multi-scale analysis of ski-snow friction in cold conditions <i>Andreas Almqvist</i>	Sweden

Oral session: Analysis of Ski-Snow Interactions		Sat 1 <sup>st</sup> Feb
Chair: Andreas Almqvist		Sweden
09:00	A portable instrument for rolling resistance characterization of roller ski wheels YIA <i>John Andréas (Adressed: Andréas) Löfgren</i>	Sweden
09:15	Inorganic sputtered coatings to win gold medals at winter olympics YIA <i>Pauline Lefebvre</i>	France
09:30	Rolling resistance coefficient of various roller-ski wheel types and manufacturers <i>Anna-Mia Brulin</i>	Sweden
09:45	Development and validation of a new standard for roller-ski wheel classification <i>Albert Hansson</i>	Sweden
10:00	Effect of crystallinity on wear properties of UHMWPE-ski base with varying molecular weights <i>Nazanin Emami</i>	Sweden
10:15	On the hydrodynamic lubrication of skiing .. <i>Roland Larsson</i>	Sweden

## Room "Latemar"

Oral session: Equipment in Ski Mountaineering		Sat 1 <sup>st</sup> Feb
Chair: Matej Supej		Slovenia
09:00	Mechanical efficiency - pin vs. freeride bindings YIA <i>Tobin Oliver Arden</i>	USA
09:15	Does binding weight influence physiological response? a laboratory based study YIA <i>Sami Samuels</i>	USA
09:30	Kinematic differences in ski mountaineering bindings during treadmill skinning YIA <i>Isaac Burgess</i>	USA
09:45	Comparison of the flex index of ski touring boots obtained using three different testing methods YIA <i>Giuseppe Zullo</i>	Italy
10:00	Effect of ski touring binding design on load distribution between toe and heel pieces YIA <i>Lorenzo Crosetta</i>	Italy
10:15	The effect of different widths on ski touring engineering parameters and subjective evaluations YIA <i>Matteo Rinaldi</i>	Italy

## Room "Cermis"

<b>Keynote</b>	Sat 1 <sup>st</sup> Feb
Chair: Dave Bacharach	USA
11:00 Risk management in alpine ski racing – every piece of the puzzle counts! <i>Jörg Spörri</i>	Switzerland

<b>Oral session: Biomechanics in Alpine Skiing</b>	Sat 1 <sup>st</sup> Feb
Chair: Jörg Spörri	Switzerland
11:45 The effect of increased gate offset in flat terrain on skier mechanics for male and female world cup alpine skiers YIA <i>Ivar Hereide Mannsåker</i>	Norway
12:00 Age-related skiing technique differences based on quantifiable movement components YIA <i>Daniel Debertin</i>	Austria
12:15 An EMG comparison of telemark and alpine ski turns <i>John Seifert</i>	USA
12:30 The influence of trunk impairment level on trunk movement during para-alpine sit-skiing <i>Yusuke Ishige</i>	Japan

<b>Closing Cerimony</b>	Sat 1 <sup>st</sup> Feb
12:45 YIA Cerimony	
13:00 Closing Remarks	



International Congress  
on Science and Skiing

11<sup>th</sup> ICSS Bormio, Italy



## Acknowledgement

We extend our gratitude to all the entities and companies that supported the congress:

### Patronage



### Partnership



### Sponsorships



Day 1 - Jan 28 Tue Tesero Theatre		Day 2 - Jan 29 Wed Cavalese Palafiemme		Day 3 - Jan 30 Thu Cavalese Palafiemme		Day 4 - Jan 31 Fri Cavalese Palafiemme		Day 5 - Feb 1 Sat Cavalese Palafiemme				
	8:30	Registration		8:30	Social activity: Alpine skiing in Pampeago/Latemar	8:30	Social activity: Alpine skiing in Cermis	8:30	Invited: Andreas Almquist (SWE)			
	8:45	Keynote Kirsty Elliot-Sale (UK)						9:00	Oral session: Analysis and Optimization of Ski- Snow Interactions		Oral session: Equipment in Ski Mountaineering	
	9:30	Invited: Thomas Stoeckl (AUT)										
	10:00	Oral session: Testing Technologies and Methodologies										
	10:45	Coffee Break								10:30	Coffee Break	
	11:15	Oral session: Testing Technologies and Methodologies								11:00	Keynote Jörg Spörri (SWI)	
		Company: Skisens						11:45	Oral session: Biomechanics in Alpine Skiing			
12:30		Registration		12:30				12:45	YIA - closing ceremony			
	13:30	Invited: Chiara Zoppiroli (ITA)		13:30				13:15	Farewell Lunch			
14:00		Invited - Patricia Doyle-Baker (CAN)		14:00	(lunch not covered by ICSS)		(lunch not covered by ICSS)					
14:30		Oral session: Physiological, Biomechanical and Company: Qualisys		14:00		14:45	Invited: Matthias Gilgien (NOR)		14:45	Invited: Matej Supej (SLO)		
15:15		Coffee Break		15:15		15:15	Oral session: Injury Prevention and Risk Management in Skiing		15:15	Oral session: Biomechanics in Alpine Skiing		
15:45		Invited - Guro Strøm Solli (NOR)		15:15		16:00	Coffee Break				Company: SIMI	
16:15		Oral session: Physiological, Biomechanical and Technical Factors of Performance		16:15		16:30	Keynote Øyvind Sandbakk (NOR)		16:30	Coffee Break		
17:00		Special session : Milano Cortina 2026		16:45		17:15	Oral session: Biomechanics in ski	Oral session: Coaching and Skill Development	17:00	Keynote Marco Narici (ITA)		
18:00		Opening Ceremony		17:45					17:45	Oral session: Advances in Ski Materials and Design	Oral session: Perspectives on Health, well being and Leisure in Skiing	
18:45		Welcome Party		18:15	Oral session: Testing Technologies and Methodologies	Oral session: Physiological Insights in Skiing	20:00	Congress Dinner				