15th International Symposium on Computer Science in Sport IACSS 2025

September 12 - 15, 2025

Tokyo Gakugei University
Tokyo, Japan

Programme Book

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Dear Colleagues, Friends, Students, and Guests,

On behalf of the International Association of Computer Science in Sport (IACSS), it is my great pleasure and honor to welcome you all to IACSS 2025.

This symposium serves as a unique platform that brings together scholars, experts, students, and professionals from around the world who are passionate about advancing the intersection of computer science and sport. Whether your focus is on data analytics, machine learning, virtual reality, performance modeling, artificial intelligence, or sport technologies, your presence here reflects our shared commitment to fostering innovation, collaboration, and academic excellence in this rapidly evolving field.

As President of IACSS, I am proud to witness how our community continues to grow—integrating multidisciplinary knowledge and harnessing the power of artificial intelligence to advance sport science. IACSS 2025 not only offers an opportunity to present cutting-edge research and share best practices, but also to reconnect with long-time colleagues, forge new collaborations, and inspire the next generation of sport scientists and technologists.

I would like to express my sincere gratitude to Tokyo Gakugei University, as well as to the organizing committee, local hosts, volunteers, and sponsors, for their outstanding efforts and invaluable support in making this event possible. Your dedication and professionalism ensure that IACSS 2025 will be a memorable and impactful experience for all participants.

Thank you once again for joining us. I wish you a productive, insightful, and enjoyable time at the symposium.

Warm regards,

Dr. Hui Zhang

President - International Association of Computer Science in Sport (IACSS)

Dear Participants of the IACSS 2025 Symposium,

On behalf of Tokyo Gakugei University, I extend my warmest welcome to all distinguished guests, colleagues, and students joining us for the 15th International Symposium on Computer Science in Sport (IACSS 2025). It is a great honor for our university to host this important academic gathering in Tokyo.

Since its founding in 1949, Tokyo Gakugei University has been dedicated to advancing education and research, training future educators, and promoting innovation across disciplines. Our affiliated schools, from kindergarten to high school, provide unique opportunities for integrating theory and practice, fostering an environment where education, research, and community engagement come together.

The mission of IACSS—to advance the interdisciplinary field of computer science in sport through research, collaboration, and technological innovation—deeply resonates with our own academic philosophy. Today, as artificial intelligence, data analytics, virtual reality, and other advanced technologies reshape both education and sport, this symposium offers a timely platform to explore new horizons.

I hope that your discussions here will inspire fresh perspectives, lead to fruitful collaborations, and contribute to the global development of sport science and education. At the same time, I encourage you to experience the cultural and historical richness of Japan during your stay.

Finally, I would like to express my heartfelt gratitude to the organizing committee, our faculty and student volunteers, and all supporters who have worked tirelessly to make this event possible. May IACSS 2025 be a memorable and impactful experience for every participant.

Sincerely,

Mitsuru Kokubun, Ph.D.

President - Tokyo Gakugei University

Dear Participants, Colleagues, and Friends,

It is my great pleasure and honor, as Chair of the Local Organizing Committee, to welcome you to Tokyo Gakugei University for the 15th International Symposium on Computer Science in Sport (IACSS 2025).

As of the end of August 2025, we are delighted to have 125 participants from about 20 countries across four continents—Asia, Europe, North America, and Oceania. This breadth reflects the truly global and interdisciplinary nature of our community, uniting researchers, practitioners, and educators in advancing the field where computer science meets sport.

The program this year spans a wide range of topics—data analytics, machine learning, artificial intelligence, virtual reality, and performance modeling—highlighting the ways in which technology continues to transform sport science and education. A particular highlight is our industry exhibition, where leading companies present interactive demonstrations, providing valuable opportunities to connect academic insights with real-world innovations.

In addition, cultural experiences such as traditional performances at the opening ceremony and the excursion to Mt. Fuji are planned to enrich your stay in Japan and to strengthen the friendships and collaborations that define the IACSS community.

I would like to extend my heartfelt gratitude to the members of the Organizing and Scientific Committees, to our partners and sponsors, and to all who have supported the preparation and realization of this symposium. Your efforts and commitment have made IACSS 2025 possible.

I wish all of you a rewarding, inspiring, and memorable symposium.

Sincerely,

Dr. Naoki Suzuki

Chair - Organizing Committee

15th International Symposium on Computer Science in Sport (IACSS 2025)

International Association of Computer Science in Sport

The International Association of Computer Science in Sport (IACSS) was established in 2003 as a non-profit international academic organization. Its headquarters are located in Vienna, Austria. The Association's primary tasks include organizing academic and exchange activities, as well as publishing scholarly journals.

To date, IACSS has successfully held 15 symposiums and 6 workshops. A General Assembly is convened every two years, during which the members elect the Executive Committee of the Association.
The Association has been established with the following key purposes and objectives:

- To disseminate scientific knowledge related to the application of computer science in sport, promoting academic exchange and technological innovation in this interdisciplinary field.
- To provide an open and dynamic forum for the exchange of ideas, research findings, and best practices among scholars, professionals, and students from around the world.
- To bridge the gap between researchers and practitioners by encouraging collaboration, knowledge transfer, and the practical application of scientific research in real-world sport settings.
- To gather, archive, and disseminate valuable information, scientific knowledge, and relevant materials that contribute to the advancement of computer science in sport.
- To offer consultation and expert advice to other organizations and institutions on matters related to computer science in sport, supporting informed decision-making and strategic development.
- To represent the field of computer science in sport within broader scientific communities and associations, ensuring its visibility, relevance, and recognition at both national and international levels.

International Association of Computer Science in Sport

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Pre - Conference Workshop & Opening Ceremony

12th-13th September 2025

DAY 0 & 1

12th September (Day 0)

14:00-17:00

IACSS Board Meeting & Liaison meeting with members from Organizing Committee

Venue: (Pending)

Registration

Venue: (Pending)

13th September (Day 1)

09:00-16:00

09:30-11:00	**National Training Center (NTC)**
13:30-15:30	**Nippon Sport Science University**

(Please find relevant details from conference information.)

16:00 Registration Open

Venue: TGU Arts Hall (Gakugeinomori Hall)

18:00-18:20 Welcome & Opening Ceremony

Venue: TGU Arts Hall (Gakugeinomori Hall)

18:20-19:00 Performance

19:00-19:10 Session Break

19:10-20:00 Keynote I

Title: Technology Meets Pedagogy: Advancing Effective Teaching and Learning in 21st-Century Physical Education and Sport

Presenter: Dr. Koh Koon Teck (Nanyang Technological University, Singapore)

Moderator: Dr. Naoki Suzuki (Tokyo Gakugei University, Japan)

Venue: TGU Arts Hall

20:00-21:30 Reception and Welcoming Dinner

Venue: Koganei Club

14th September 2025

DAY 2

09:00 – 10:00 Oral Sessions I

Visual Analysis / Computer Study / Sport Performance

Parallel Session 1 (Room: N202)

Chair: Daniel Link

1. Design of Virtual Tennis Courts and Spectators (Code 27)
Jijia Zhang & ZhengZhou
2. Sports-vm Tracking: Pose-Driven Virtual Markers for Identity-Preserving Tracking in 3x3 Basketball (Code 29)
Li Yin, Calvin Yeung, Qingrui Hu Hu, Jun Chikawa, Hirotsugu Azechi, Susumu Takahashi & Keisuke Fujii
3. Trends and Performance Visualization of Clutch Time in Japan's Professional B. League (Code 32)
Shota Shiiku & Jun Ichikawa

Parallel Session 2 (Room: N205)

Chair: Arnold Baca

1. A look at Tactical Creativity of Tennis Players using Computer Vision (Code 07)
John Komar & Zania Tan
2. Expected Goals (xG), a Machine Learning-based Performance Indicator – Why does it fail to predict match outcomes? (Code 17)
Martin Lames
3. Exploring Sports Video Collection with Embedded Visualizations (Code 85)
Xiao Xie, Anqi Cao, Jiachen Wang & Hui Zhang

Parallel Session 3 (Room: N206)

Chair: Kerstin Witte

1. Assessment of Functional Movement Screen and Kinematic Parameters during Wrestling Techniques Using Inertial Measurement Unit Sensors (Code 02)
Batbayar Khuyagbaatar, Batlkham Dambadarjaa, ZulAltan-Ochir, Ganzorig Battumur,Erdenevaanchig Batbaatar & Ganbat Danaa
2. A Case Study on Muscle Activation Patterns of an Elite Male Hammer Throwre – Part I: Lower Body Muscles (Code 04)
Tomi Vanttinen, Fredrik Froberg & Sami Vierola
3. A Case Study on Muscle Activation Patterns of an Elite Male Hammer Thrower - Part II: Core and Upper Body Muscles (Code 05)
Tomi Vanttinen, Fredrik Froberg & Sami Vierola

10:00 - 10:20 Coffee Break (Exhibition)

10:20 - 11:00 Symposium I

Topic: Developing a Curriculum for Remote Physical Education: International Practices and Future Directions
Chair: Dr. Ediz Kaykayoglu (CEO, BEAK, US)
Presenters:
Dr. Naoki Suzuki (Associate Professor, Tokyo Gakugei University, Japan)
Dr. Toshihiro Nakashima (Professor, Hokkaido University of Education, Japan)
Prof. Koji Murase (Professor, Wakayama University, Japan)
Prof. Seiji Okuma (Lecturer, Tokyo International University, Japan)
Moderator: Dr. Selina Khoo (Universiti Malaya, Malaysia)
Venue: Room N202

14th September 2025

DAY 2

10:20 - 11:00 Symposium II

Topic: Sports Analytics (Teaching and Research at the Intersection of Computer Science & Sports Science) - Bridge Professorship Computer Science & Sports Analytics
Chair: Dr. Pascal Bauer (Saarland University, Germany)
Presenters:
Martin Lames (Technische Universität München, Germany)
Arnold Baca (University of Vienna, Austria)
Matthias Kempe (University of Vienna, Austria)
Luis Holzhauer (Saarland University, Germany)
Moderator: Dr. Walter Ho (Tokyo Gakugei University, Japan)
Venue: Room N205

11:00 - 11:10 Session Break (Exhibition)

11:10 - 12:00 Keynote II

Title: A Challenge to Data-driven Physical Education: The Values of Sports Analytics as Teaching Materials and the Role of Data Science
Presenter: Prof. Hirotaka Jo (Shizuoka Sangyo University, Japan)
Moderator: Dr. Naoki Suzuki (Tokyo Gakugei University, Japan)
Venue: W4 (110)

12:00 - 13:00 Lunch (TGU Campus)

13:00 - 14:00 Oral Sessions II

Data Analysis / Sport Performance / Physiology & Biomechanics

Parallel Session 4 (Room: N202)

Chair: Arnold Baca

1. Research on the Correlation Between Sports Stat Anxiety and Athletes' Competition Performance Based on Big Data Analysis (Code 28)
Xilin Tan & Yaping Zhong
2. Using Machine Learning for identifying soccer in possession match phases based on their tactical intention (Code 40)
Yuesen Li, Steffen Lang, Daniel Link & Stephan Günnemann

Parallel Session 5 (Room: N205)

Chair: Yingcai Wu

1. Sensory integration processes characterize concussed athletes with balance deficits (Code 10)
Bhagyashree Singh & Ingo Helmich
2. Anticipation Training in Beach Volleyball: How Does Occlusion Timing Affect Anticipation Accuracy in Experts and Novices? (Code 11)
Fabian Tobias, Deepak Sing, Steffen Lang, Raimund Wenning & Daniel Link
3. Development of a Perturbation in Performance Scale: An Approach Using EPL Soccer Positional Coordinate Data (Code 96)
Hyongjun Choi

14th September 2025

DAY 2

Parallel Session 6 (Room: N206)

Chair: Hayri Ertan

1. Assessment of performance during penché rotation in rhythmic gymnastics using statistical parametric mapping (Code 09)
Bat-Otgon Batsuren, Batbayar Khuyagbaatar, Enkhsaikhan Gombojav, Battsetseg Gonchoo, Yeruulbat Galbadrakh, Altantsetseg Tseveg, Bayarjargal Ulziikhutag & Ganbat Danaa

2. Identifying technique differences in professional alpine skiing based on Human Pose Estimation models (Code 18)
Hendrik Meth & Felix Franke

3. Design of an Integrated System Combining a Six-Axis Sensor and Open Pose for Forehand Stroke Analysis (Code 03) (Poster Presentation)
Yung Hoh Sheu, Li Wei Tai, Sheng K. Wu, Tz Yun Chen, Tzu Hsuan Tai & Cheng You Huang

14:00 - 14:10 Session Break (Exhibition)

14:10 - 15:10 Oral Sessions III

Physiology & Biomechanics / Sport Performance / Visual Analysis

Parallel Session 7 (Room: N202)

Chair: Juliana Exel

1. Exploring the Perception of E-sports Participation among Chinese Young Adults - A Qualitative Study Informed by the Theory of Planned Behavior (Code 57)
Mingyu Liu & Selina Khoo

2. Data-driven Error Correction of MediaPipe Outputs for Football Kicking Pose Estimation (Code 53)
Rion Takahashi, Kenta Umebayashi, Takashi Fukushiman & Katsuya Suto

3. Development of an AI-based Online Sports Injury Assessment System: Athlete Self-Monitoring and Injury Management (Code 45) (Poster Presentation)
Shuya Chen, Yi- Shen Chou, Chen-Yu Sun, Sheng-Kuang Wu & Wen- Dien Chang

Parallel Session 8 (Room: N205)

Chair: Yogesh Chander

1. An Analysis of the Running Performance Characteristics of Professional League Referees Across Different Match Contexts (Code 20)
Mu Fan & Hui Zhang

2. Recurrence Analysis in Football: Relationship between Recurrence Parameters and Match Results (Code 23)
Sebastian Hermann, Hendrik Meth & Martin Lames

3. Coupling load parameters via Kernel Density Estimation Uncovering underlying patterns for training optimization (Code 37)
Matthias Kempe & Laurens Postma

Parallel Session 9 (Room: N206)

Chair: Jeonghyung Choi

1. Augmented Reality Immersion as a Mediator between Physical Activity Attitude and Depression, Anxiety, Stress among Youth (Code 33)
Arvin Andacao, Arianne Michael Sim Tuano, Hazel Joyce Cariaga, Leonard Sydrick Pajo, Pink Floyd Boyles, Rey Rabuya & Naoki Suzuki

2. Supporting Gymnastics Training with Virtual Reality: The Impact of Head-Mounted Displays (Code 34)
Sebastian Merker, Stefan Pastel, Dan Bürger & Kerstin Witte

3. Assessing the Readiness of LPU-Manila Students for Virtual Reality Integration in Physical Education Classes (Code 36)
Billy Natad

14th September 2025

DAY 2

15:10 - 15:30 Coffee Break (Exhibition)

15:30 -16:20 Keynote III

Title: The Role of Footwear and Playing Surface Interaction in Sports Performance: Insights from Biomechanical Data Analysis
Presenter: Prof. Shariman Ismadi Bin Ismail (Universiti Teknologi MARA, Malaysia)
Moderator: Dr. Hironari Shinkai (Tokyo Gakugei University, Japan)
Venue: W4 (110)

16:20 - 16:30 Session Break (Exhibition)

16:30 - 17:30 Oral Sessions IV

Sport Performance / Computer Study / Data Analysis

Parallel Session 10 (Room: N202)

Chair: Hayri Ertan

1. Test-Retest Reliability of HR Model Parameters in Submaximal Rowing Exercise: A Pilot Study (Code 16)
Tjorven Schnack, Philipp Kornfeind, Juliana Exel & Arnold Baca
2. Influence of horizontal release position and handedness matchups on batter's swing result of fastballs in US Major League Baseball (Code 35)
Mamiko Kato & Toshimasa Yanai
3. Examining the Utility of Inter-day Cerebral Haemodynamic Measurements in a Dynamic Motor Task using Functional Near-infrared Spectroscopy (Code 52)
Yi Shin Lee, Alicia Goodwill & John Komar

Parallel Session 11 (Room: N205)

Chair: Martin Lames

1. Empowering Volleyball Coaches: A Mobile Application for Match-up Optimization (Code 24)
Sotirios Drikos, Elias Kanakis & Paraskevas Nikolareas
2. Exploring Motor Creativity in Tennis through Computer Vision (Code 30)
Zania Tan & John Komar
3. Athlete- and movement-specific clustering of halfpipe snowboard tricks using inertial measurement unit data (Code 39)
Tom Gorges, Matthias Thelen, Uwe G. Kersting & Christian Merz

Parallel Session 12 (Room: N206)

Chair: Hyongjun Choi

1. The Centre That Moves: A Data- Driven Perspective on Spatial Adaptations in Men's Singles Badminton (Code 14)
Julian Quah Jian Tan, Chaitanya Dhanajay Jadhav & John Komar
2. Big Three 100 - An Open Access Movement Data Set of over 100 People Doing Bench Press, Squats and Deadlifts (Code 19)
Bastian Dänekas, Shiyao Zhang, Lars Hurrelbrink, Tim Laue & Rainer Malaka
3. An Automatic Segmentation and Highlight Extraction System for Table Tennis Videos Using the Bimodal-Based Deep Neural Networks (Code 26)
Chiahe Yang, Chiayu Wu, Minghua Hsu & Jiunnlin Wu

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DAY 3

09:00 - 10:00 Oral Sessions V

Data Analysis / Visual Analysis / Computer Study / Sport Performance

Parallel Session 13 (Room: N203)

Chair: Martin Lames

1. Clustering AFL Players Using Factorisation of Spatial Data (Code 50)
David Carey & Juan Pablo Cortez

2. Data-Driven Evaluation and Improvement of Rugby Teams: A PCA and DEA-Based Analysis (Code 55)
Keita Inoue, Makoto Kiuchi, Nobuyoshi Hirotsu & Kazuyuki Sekitani

3. AI Applications in China's Physical Education Classes: A Systematic Review of Innovations and Trends (Code 58)
Di Feng

Parallel Session 14 (Room: N202)

Chair: Daniel Link

1. Affective Figurations in Virtual Sports Environments (Code 38)
Maximilian Müller

2. Bridging Vision and Language for Tennis Analysis: A RAG-Based Approach (Code 42)
Kriti Bharadwaj, Dipin M Gowda, Gowri Srinivasa & Vr Badri Prasad

3. Real-Time Table Tennis Ball Speed Estimation: A YOLO-Based Dual-Camera (Code 65)
Khanh-Duy Nguyen, Min-Te Sun, Quoc-Viet Nguyen, Kazuya Sakai & Wei-Shinn Ku

Parallel Session 15 (Room: N205)

Chair: Kerstin Witte

1. Feasibility of 3D Markerless Kinematic Analysis in Bouldering Using a Dual Camera Computer Vision Approach (Code 41)
Chen Lim, Phillis Teng & John Komar

2. Implementation of Thin Film Pressure Sensors in Sporting Gloves: Structure Design and Analysis for Climbing (Code 43)
Kuan-Chen Wu & Chih-Ling Kuo

3. Research on Table Tennis Action Recognition Based on Deep Learning: Improvement and Application of the YOWO Model (Code 21)
Yuming Jiao & Rongzhi Li

Parallel Session 16 (Room: N206)

Chair: Takashi Fukushima

1. Examining dropout risk and predicting sporting success in swimming using competition participation history during youth (Code 54)
Nur Adilah Masismadi, Matthew J. Wylde, Minh Huynh, Paul B. Gastin & Haresh Suppiah

2. Game, Set, Match - A Finite Stochastic Markov Chain Approach for In-Match Win Predictions in Professional Tennis (Code 59)
Luis Holzhauer & Pascal Bauer

3. Impact of PyzoFlex® Sensor Integration on the Dynamic Properties of Alpine Skis in Laboratory Conditions (Code 60)
Christoph Thorwartl, Andreas Tschepp, Martin Zirkl, Helmut Holzer & Thomas Stöggl

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DAY 3

10:00 - 10:20 Coffee Break (Exhibition)

10:20 -11:20 Oral Sessions VI

Data Analysis / Visual Analysis / Sport Performance / Physiology & Biomechanics

Parallel Session 17 (Room: N203)

Chair: Selina Khoo

1. Smart Sport Assistance: Low-Cost Intelligent Systems for Inclusive Physical Education (Code 62)
Philipp Kornfeind & Arnold Baca

2. A Deep Learning based Basketball Game State Reconstruction System (Code 82)
Chao Wang, Shujun Wang, Jason Cheung & Ming Zhang

3. An AI-assisted Basketball Tactical Decision Support System for Effective Coaching (Code 83)
Yuhang Liu & Koon Teck Koh

Parallel Session 18 (Room: N202)

Chair: Arvin Andacao

1. A Visual Analytics System for Match Efficiency in Soccer (Code 74)
Anqi Cao, Yue Zeng, Hui Zhang & Yingcai Wu

2. Changes in Psychological Learning Factors According to Participation in Metaverse-Based Archery Classes and Academic Major: Applying a Solomon Four- Group Design (Code 99)
Jeonghyung Cho

Parallel Session 19 (Room: N205)

Chair: Ediz Kaykayoglu

1. Modelling Performance Distributions from Multi-trial Athletic Tests (Code 51)
Tara Lind, David L.Carey, Minh Huynh, Lachlan P. James, Luke Stevens & Mary-Claire Geneau

2. Exploration of athlete step side patterns using IMU data — a UMAP clustering approach (Code 63)
Felix Friedl, Thorben Menradand & Jürgen Edelmann-Nusser

3. Impact of Resistance Training on Physical Fitness Parameters in Kabaddi and Wrestling Players (Code 98)
Sagar Dalal, Sanyam Malik & Yogesh Chander

Parallel Session 20 (Room: N206)

Chair: Walter Ho

1. Investigation of the Effect of Vibration Amplitude and Frequency on Muscle Contraction Patterns (Code 13)
Hayri Ertan, Emel Tugrul, Metehan Acar, ErdemAkkas & Adem Sagdic

2. Classification and Evaluation of Road Bike Riding Posture Using Pose Estimation (Code 49)
Ryoya Hirasaki, Toshihiko Iuchi, Niken Prasasti Martono & Hayato Ohwada

3. Correlation between Ground Reaction Force and Kinematics during Sprint Acceleration using Wearable Sensors (Code 15)
Batbayar Khuyagbaatar, Munkh-Erdene Bayartai, Boldbaatar Chuluunbaatar, BattsengelBanzragch, BatlkhamDambadarjaa, Munkhbat Tumurbaatar & Erdenevaanchig Batbaatar

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DAY 3

11:20 - 11:30 Session Break (Exhibition)

11:30 - 12:20 Keynote IV

Title: Beyond Quantity: Value-Driven Data Strategy for Elite Athlete Empowerment

Presenter: Dr. Ozaki Hiroki (Japan Institute of Sport Science)

Moderator: Dr. Seiji Hirosawa (Toin University of Yokohama, Japan)

Venue: W4 (110)

12:20 - 13:20 Lunch (TGU Campus)

13:20 - 14:00 IACSS Special Lecture & Conference Announcement

Title: Applications of virtual reality to support motor learning and anticipation training

Presenter: Dr. Kerstin Witt, Dan. Bürger & Stefan Pastel (Otto-von-Guericke University Magdeburg, Germany)

Conference Announcement

Presenter: Dr. Hyongjun Choi (Dankook University, South Korea)

Moderator: Dr. Hui Zhang (Zhejiang University, China)

Venue: W4 (110)

14:00 - 14:10 Session Break (Exhibition)

14:10 - 15:10 Oral Sessions VII

Pedagogical & Environmental Study / Physiology & Biomechanics / Sport Performance / Data Analysis

Parallel Session 21 (Room: N203)

Chair: Hironari Shikai

1. Analysis on the Influencing Factors of the Number of Olympic Medals won by American Universities (Code 64)
Shujin Feng

2. Research Hotspots and Trends in Physical Education Empowered by Artificial Intelligence (Code 44)
Qu Jie, Liu Zan & Feng Di

3. The effect of Pedagogical model training on the game and physical performance of Aboriginal youth football student-players (U18) in Pahang (Code 61)
Sulong Mohamad Nor Farihan, Karim Zulakbal Abd, Shahril Mohd Izwan, Nathan Sanmuga, Muszali Rozaireen & Abdullah Mohd Fadhil

Parallel Session 22 (Room: N202)

Chair: Ediz Kaykayoglu

1. The Demand for Over-the-Top Basketball Broadcasts: Substitution Effects and Viewer Preferences (Code 25)
Georgios Nalbantis & Vasileios Manasis

2. Comparison of Different Pose Estimation Models: A Validation Study (Code 46)
Takashi Fukushima, Patrick Blauberger, Tiago Guedes Russomanno & Martin Lames

3. Improving the Estimation Accuracy of a Pose Estimation Model Using Time-Series Data Correction with the K-Nearest Neighbors Method (Code 47)
Tomoki Sasaki, Niken Prasasti Martono, Yasushi Kariyama, Toshihiko Iuchi, Shinichiro Tani & Hayato Ohwada

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DAY 3

Parallel Session 23 (Room: N205)

Chair: Seiji Hirosawa

1. Match Analysis in German Badminton based on Perturbations - Technical Workflow and Performance Analysis (Code 84)
Daniel Link & FabiancHammes

2. Table tennis profiling with first offensive shot transitions (Code 91)
Ruizhi Liu, Frederic Rothe & Martin Lames

3. A Novel Fatigue Detection Method for Table Tennis Specific Aerobic Testing Using 3D Human Pose Estimation Approach (Code 66)
Minghua Hsu, Tilun Pan, Miran Kondrič & Jiunnlin Wu

Parallel Session 24 (Room: N206)

Chair: Juliana Exel

1. Multi-modal Machine Learning Models for The Prediction of Overuse Injuries in Sports (Code 87)
Melis Atbinek, Justin Albert & Mauricio Villarroel

2. The Correlation between Sports Fatigue and Lower Extremity Joints Angular Velocity in Women Weightlifting Athletes by Utilizing Open AI Skeleton (Code 90)
Jen-Shi Chen & Ching-Ting Hsu

3. Use of Digital Tools in Pre-Service Coaching Practices: A Case Study of the Sports University of Haryana (Code 97)
Yogesh Chander & Vinit Kumar

15:10 -15:30 Coffee Break (Exhibition)

15:30 - 16:30 Oral Sessions VIII

Sport Performance / Physiology & Biomechanics / Pedagogical & Environmental Study

Parallel Session 25 (Room: N202)

Chair: Takashi Fukushima

1. Predicting Stroke Types in Table Tennis Using Sequence to Sequence Models (Code 68)
Chao-Wei Cai & Hung-Hsuan Chen

2. Technical and tactical analysis of the winning and losing game between Miwa Harimoto and Sun Yingsha (Code 69)
Chunxiao Xie

Parallel Session 26 (Room: N205)

Chair: Yingcai Wu

1. Modelling Defensive Behaviour and Predicting Corner Outcomes Using Hidden Markov Models and Graph Neural Networks (Code 86)
Sean Groom, Francisco Belo, Liam Anderson & Shuo Wang

2. Optimizing IT Strategies to Enhance Female User Engagement and Retention of Fitness Apps (Code 100)
Nor Eeza Zainal Abidin & Lyu Le

Parallel Session 27 (Room: N206)

Chair: Arvin Andacao

1. Apps for Movement Analysis in Physical Education - Investigating the Applicability and Usefulness through Selected Examples (Code 56)
Lisa Alena Fischer & Arnold Baca

2. Exploring Diversity in Global Sports Ecosystems through Squad- League Networks (Code 75)
Juliana Exel, Runqing Ma, Chenyuyan Yang & Martin Lames

15th September 2025

DAY 3

16:30 - 16:40 Session Break (Exhibition)

16:40 - 17:40 Oral Sessions IX

Sport Performance / Pedagogical & Environmental Study

Parallel Session 28 (Room: N202)

Chair: Yogesh Chander

1. Comprehensive Analysis of Key Motion Parameters in Speed Climbing Performance (Code 73)

Dominik Pandurevic, Pawel Draga & Klaus Hochradel

2. Shot Detection in Table Tennis: A Velocity- Based Approach Using Markerless Motion Capture Data (Code 88)

Eric Schumann, Felix Freude, Gabriel Müller, Djordje Slijepčević & Fabian Horst

3. A Comparison of Table Tennis Player Performance Between China and Other Countries Based on Stroke Effectiveness (Code 92)

ZhengZhou & Jie Zhao

Parallel Session 29 (Room: N205)

Chair: Jeonghyung Choi

1. Understanding Team Dynamic Behaviours through the Temporal Evolution of Passing Networks in Football (Code 80)

Runqing Ma, Ricardo da Silva Torres, Arnold Baca & Juliana Exel

2. Analysis of the Differences Between Teaching Competitions and International Competitions for Elite Chinese U15 Table Tennis Players (Code 94)

Shuangying Wang & Zheng Zhou

Parallel Session 30 (Room: N206)

Chair: Selina Khoo

1. Development of an Kamakura Exercise Application"KaMap" for Individualized Wellness: Expanding into "KaMap Junior" as an application for elementary school students combining school meals with exercise courses (Code 76)

Koharu Sugizaki, Haru Aizawa, Saki Takeuchi, Hina Saka, Kasumi Iwata, Rin Kawasaki, Rena Kuwashiro, Shiho Sakano, Sakura Yamamoto, Noa Ouchi, Erina Shigematsu, Kimie Kawachi, Itaru Enomoto, Hironori Matsuda, Mark Perez & Taiji Ito

2. Clustering Analysis of Environmental Factors in KBO, NPB, and MLB (Code 95)

Woojin Lee & Hyongjun Choi

3. Multimedia Technology to Enhance Primary School Physical Education Teacher Instructional Practices in Fundamental Movement Skills (Code 72)

Steven Kwang San Tan, Shern Meng Tan, Tommy Hock Beng Ng & Connie Huat Neo Yeo

17:40-18:30 General Assembly & Closing

Venue: N203

19:00-21:00 Conference Dinner

Venue: Hokkaido at Kokubunji Station (South Exit)

16th September 2025

DAY 4

08:00-17:00 Mt. Fuji Excursion	
08:00	**Assemble: Kokubunji Station**
17:30	**Return: Kokubunji Station**

(Please find relevant details from conference information.)

Guidelines for Speakers

We warmly welcome you to the 15th International Symposium on Computer Science in Sport (IACSS 2025).

Please follow the guidelines below to ensure smooth and effective presentations.

1. General Information

- Each classroom is equipped with a **conference PC** (pre-installed with Microsoft Office and PDF reader).
- **Personal laptops are not recommended**. Please use the conference PC for your presentation.
- Presentation format: **15 minutes** for the presentation + **5 minutes** for Q&A (total 20 minutes).

2. Preparing Your Presentation

1) Bring your file on a USB flash drive (jump drive).

- Save your PowerPoint or PDF presentation on a USB drive. Name the file with the day, the starting time of the presentation (according to the program), oral sessions number, parallel sessions number, and followed by speakers last name, like "day2_1630_OSV_PS10_lastname.ppts".
- At your earliest convenience, please bring it to the **Registration Desk** (located next to the reception area).
- Our staff will copy your file into the appropriate folder, so it is ready to use in your assigned room.
- You may also choose to upload your PPT at the drop box with link as follows.

https://www.dropbox.com/scl/fo/8fspcw5jw0yakj1s966po/AH2R0xenMghCzMSbkxHGqJw?rlkey=qelxpd62xpcu00drtox8nivvt&st=cckwgx39&dl=0

2) Check your file in advance.

- You may test your presentation at the **Speaker Preparation Desk** near registration if time allows.
- Please ensure that fonts, images, animations, and videos display properly.

Guidelines for Speakers

3. During the Session

- At the beginning of your session, please go to the classroom where your presentation is scheduled.
- On the conference PC, locate your file in the designated folder.
- Open your presentation and start when the chairperson invites you.
- Please keep within the **15-minute presentation limit** so that 5 minutes remain for questions.

4. For Poster Presentations

- Poster presenters will **first display and explain their posters inside the designated classroom** during the session.
- Afterward, posters will be **relocated to the Exhibition Hall**, where they will remain on display.
- Please be present at the exhibition area during the designated poster session times to discuss your work and engage in dialogue with participants.

(Further details about poster handling will be provided by Dr. Walter Ho.)

5. Important Reminders

- Always arrive at your session room **at least 10 minutes before** the start.
- Respect the allocated time strictly. The chairperson will signal if you approach the time limit.
- If technical difficulties occur, conference staff will assist you immediately.
- For Q&A, please speak clearly and repeat questions if necessary, so that all participants can hear.

6. Appreciation

We deeply appreciate your cooperation in following these guidelines. Your efforts will help make IACSS 2025 a smooth, professional, and engaging symposium for everyone.

TGU Conference Venue Floor Plans

W4: Keynote Presentation & IACSS Special Lecture [W4 (110)]

C4 (N Building): Conference Main Venue (N202, N203, N205, N206)

101: Koganei Club: Venue for Reception & Welcoming Dinner

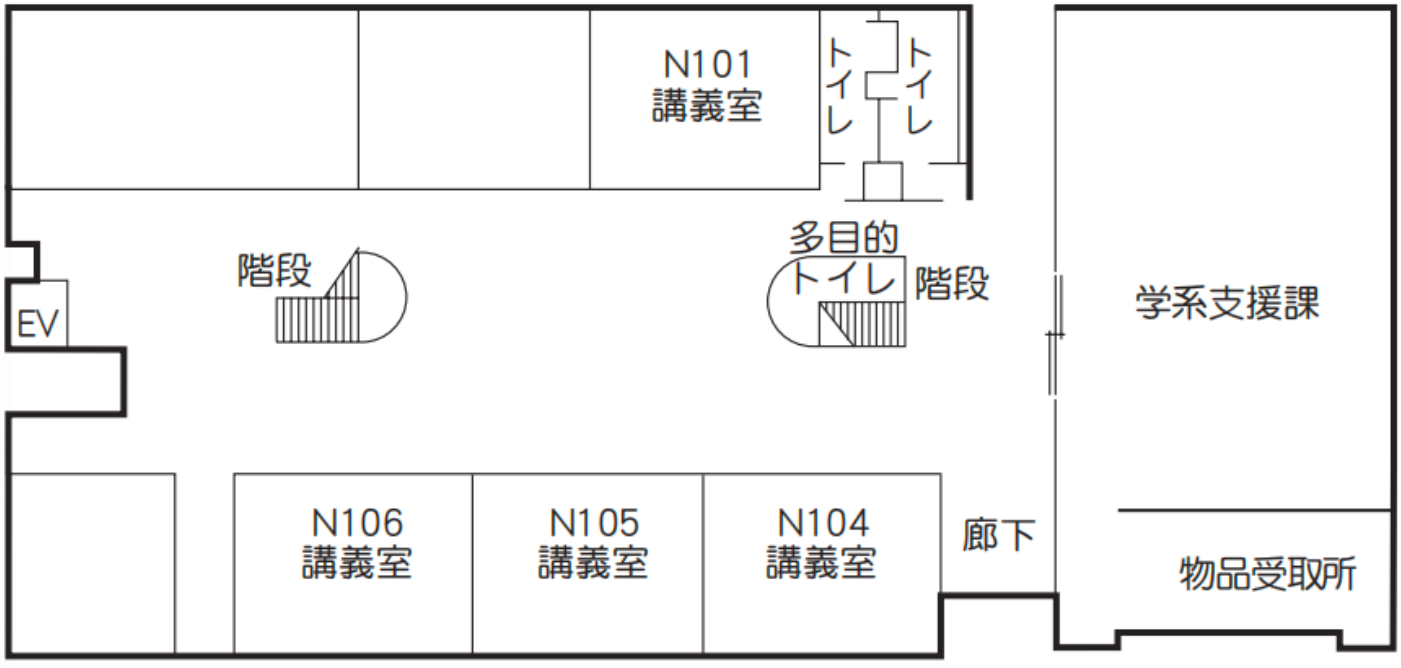
102: Art Hall (Gakugeinomori Hall): Venue for Registration and Welcome, Opening Ceremony & Keynote I

TGU Conference Venue Floor Plans

中央4号館（北講義棟）（C4）平面図

N101 - 15th International Symposium on Computer Science in Sport (15th ISCSS) Registration Desk, IACSS Desk & Technical Support

Venue for Exhibition from Sponsors and Poster Presentation Area
N104 - Mingaku, Qlik & SPLYZA
N105 - Pestalozzi, Shanghai Technology & Poster Presentation Area
N106 - HADO Meleap

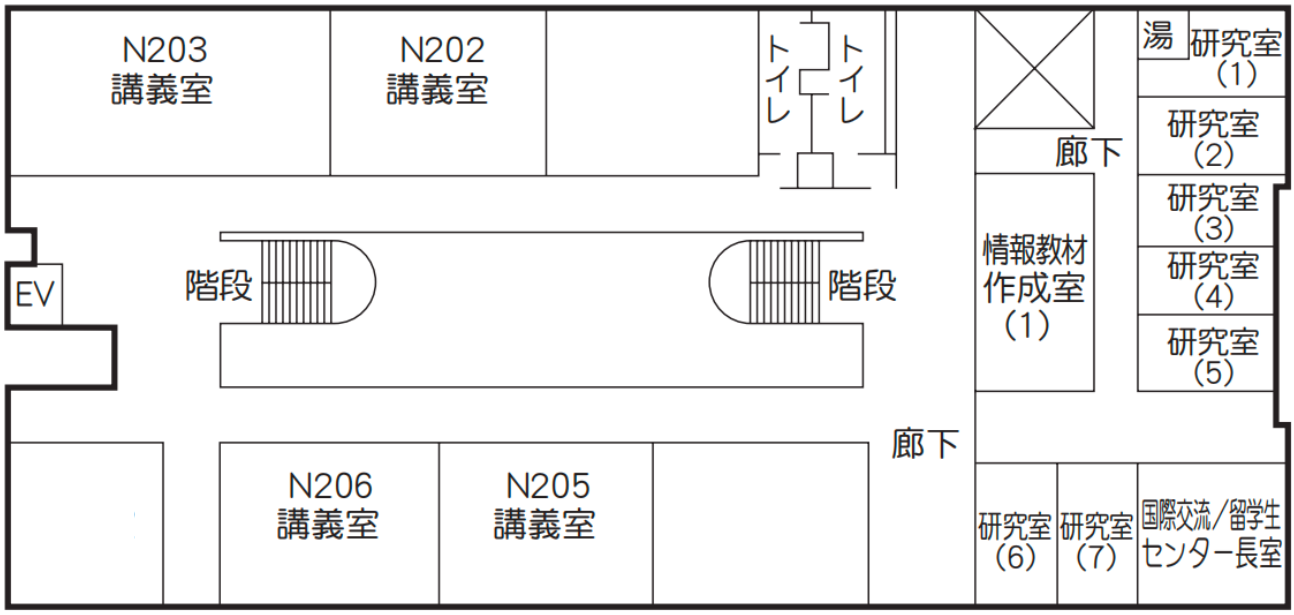


TGU Conference Venue Floor Plans

中央4号館（北講義棟）（C4）平面図

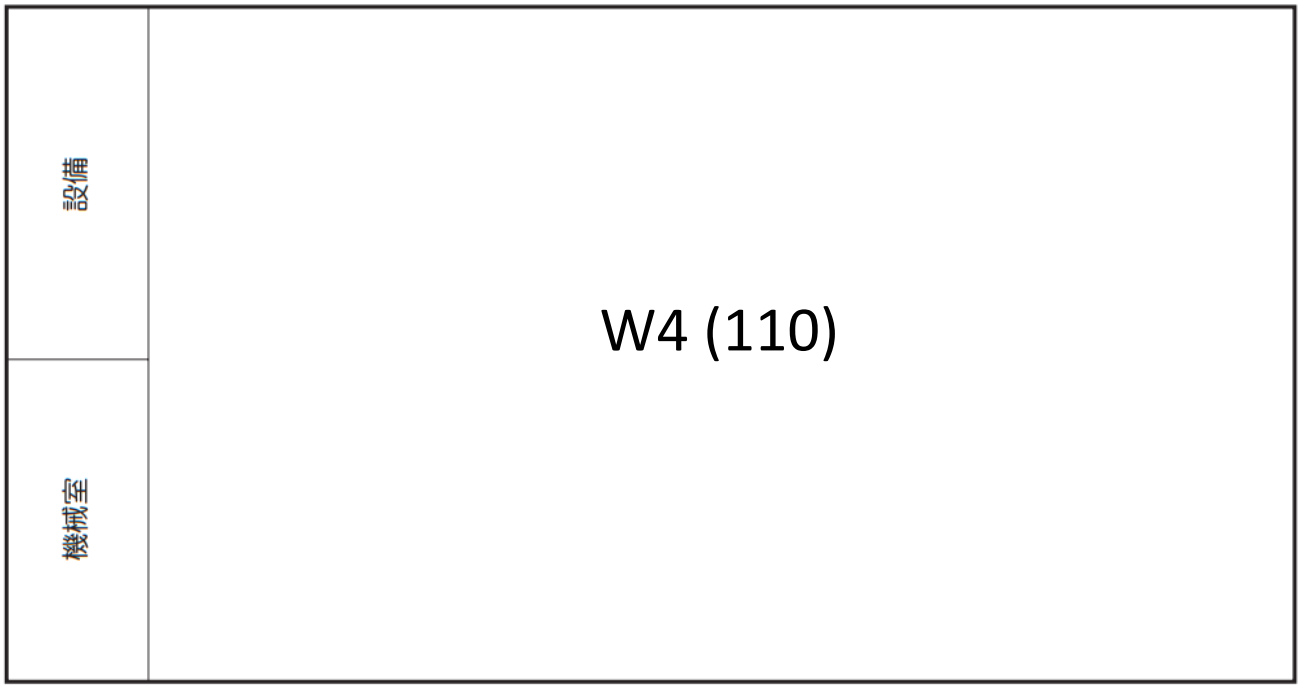
Oral/Poster Presentation: N202, N203, N205, N206

Symposium I: N202, Symposium II: N205



西4号館（西講義棟）（W4（110））平面図

Keynote Presentation & IACSS Special Lecture: W4 (110)



How to get to Tokyo Gakugei University

From Narita Airport

▶Take JR (Japan Railways) Narita Express from "Narita International Airport" to "Tokyo" station. Change to JR Chuo Line and get off at "Musashikoganei" station. Take the Keio bus bound for KODAIRA Danchi (No.5) to "Gakugeidai Seimon" bus stop.

▶ Take the Airport Limousine Bus bound for "Kichijoji" station from Narita International Airport. At "Kichijoji", go onto JR Chuo line and get off at "Musashikoganei" station. From the north exit of Musashikoangei station, take the Keio bus bound for KODAIRA Danchi (No.5) to "Gakugeidai Seimon" bus stop.

From Haneda (Tokyo International) Airport

▶ Take Tokyo Monorail from "Tokyo International Airport" to JR "Hamamatsucho" station. Change to JR Yamanote Line and get off at "Tokyo" station. Change to JR Chuo Line and get off at "Musashiokganei" station. Take the Keio bus bound for KODAIRA Danchi (No.5) to "Gakugeidai Seimon" bus stop.

▶ Take the Airport Limousine Bus bound for "Musashikoganei Station south exit" from Haneda (Tokyo International) Airport. From the north exit of Musashikoganei station, take the Keio bus bound for KODAIRA Danchi (No.5) to "Gakugeidai Seimon" bus stop.

From JR Musashi-Koganei Station, North Exit

Approx. 25 mins on foot from the station.

▶Bus stop No.5 from North Exit of JR Musashikoganei Station by Keio Bus from bus stop No.5. Take a bus bound for KODAIRA Danchi or North Exit of Kokubunji station. After approx. 10 mins, get off at Gakugeidai Seimon by Keio Bus.

▶Bus stop No.6 from North Exit of JR Musashikoganei Station, take a bus on the CHUDAI-JUNKAN line. After approx. 10 minutes, get off at Gakugeisho-mae.

From JR Kokubunji Station, North Exit

Approx. 20 mins on foot from the station.

▶Bus stop No.2 from North Exit of JR Kokubunji Station by Gintetsu Bus bound for South Exit of KODAIRA Station. After approx. 10 mins, get off at Gakugei Daigaku.

▶Bus stop No.5 from North Exit of JR Kokubunji Sation by Keio Bus bound for North Exit of Musashikoganei Station. After approx. 10 mins, get off at Gakugeidai Seimon bus stop.

Our Sponsors

【教育×テクノロジー】で現場課題と向き合う

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次世代のスポーツ

ハドー
HADOとは？

「HADO」は既存のフィジカルスポーツと、最新のAR技術を組み合わせた新しいスポーツジャンル「テクノスポーツ」です。エナジーボールやシールドを駆使し、チームで連携して対戦します。

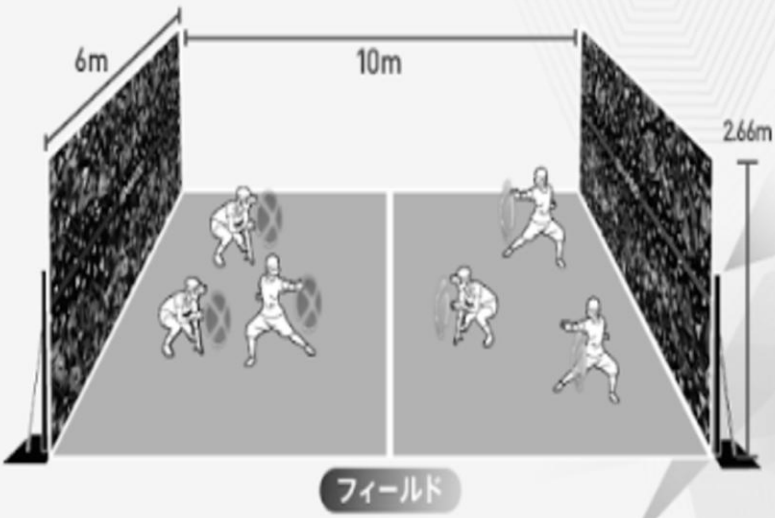
エナジーボールを放ち、相手のライフに当てると1点。80秒の制限時間でより多くの点数を獲得したチームが勝利です。

3人vs 3人で対戦

※CPU対戦や1vs1、2vs2も可能

プレイヤーの前に現れるターゲットを全て破壊すると1ポイント

80秒の制限時間内でより多くポイントをとったチームの勝利



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