

				Auditorium(Hybrid)	
				TUS(Onsite)	
JST	BST	PDT	EDT	Event	
AM				Onsite event	
14:00	6:00	22:00	1:00	Opening Ceremony	
14:45	6:45	22:45	1:45	Break	
15:00	7:00	23:00	2:00	Oral Session 1	"Devices"
				1 Motion Capturing in Large-Scale VR Environments using Consumer Hardware Author: Janis Sprenger (German Research Center for Artificial Intelligence GmbH), Lorena Hell, Matthias Klusch	
				2 How to use the cane effectively to prevent the osteoarthritis of the hip and knee joints Author: Kodai Kawase (Ritsumeikan University), Takahiko Sato, Akinori Nagano	
				3 Design of a novel biomechanics-informed walking frame Author: Callum Watt (University of Salford), Sibylle B Thies, Laurence P Kenney, Dave Howard, Susan Bevan	
				4 On-line Tuning of Control Parameters of Pneumatic Artificial Muscle for Swing Support of Hip Joint during Walking Author: Kota Kiriya (Tokyo University of Science), Haruki Toda, Masataka Yamamoto, Yuichi Kurita, Hiroshi Takemura, Mitsunori Tada	
				5 3D characterization of open chain knee flexion extension movements with DINABANG Author: Dario Santos (Universidad de la República), Rodrigo Barboza, Jorge Dominguez, Andrés Rey, Franco Simini	
				6 Energy dissipation caused by plantar-sole frictional movement during gait Author: Isabel Morales (Universidad de la República), Franco Simini	
~16:15	~8:15	~0:15	~3:15		
16:15	8:15	0:15	3:15	Break	
16:30	8:30	0:30	3:30	Keynote Lecture 1	Professor André Seyfarth (TECHNISCHE UNIVERSITÄT DARMSTADT, Germany)
17:00 ~17:30	9:00 ~9:30	1:00 ~1:30	4:00 ~4:30	Keynote Lecture 2	Dr. Sibylle Thies (University of Salford, UK)



				Auditorium(Hybrid)	
JST	BST	PDT	EDT	Event	
9:30	1:30	17:30	20:30	Keynote Lecture 3	Professor Scott Delp (Stanford University, US)
10:00	2:00	18:00	21:00	Keynote Lecture 4	Dr. Makiko Kouchi (National Institute of AIST, Japan)
10:30	2:30	18:30	21:30	Break	
10:45	2:45	18:45	21:45	Short Presentation (Poster)	
12:00 ~12:30	4:00 ~4:30	20:00 ~20:30	23:00 ~23:30	Luncheon Seminar 1 : Presented by VICON / Inter Reha co.,Ltd	How advances in Motion Capture Technology enables customers to deliver on new ideas and applications Alex Muir (Asia Pacific Manager / Vicon Motion Systems Ltd)
12:30	4:30	20:30	23:30	Break	
13:30	5:30	21:30	0:30	Oral Session 2	"Gait with tasks"
					1 Training using virtual reality improves collision-avoidance behavior Author: Yuki Suda (Tokyo Metropolitan University), Kazunobu Fukuhara, Kasuyuki Sato, Takahiro Higuchi
					2 Fatigue-induced destabilization of locomotor control during obstacle negotiation Author: Joshua Alexander Vicente (California State University), Isaiah Jacob Lachica, Belle P Ponce de Leon, Sedona S Boren, Jacob Wesley Hinkel-Lipsker
					3 Evaluating anticipatory locomotor adjustment ability in older adults: Based on selected route suitability in a Timed Up and Go test with an obstacle Author: Juntaro Sakazaki (Tokyo Metropolitan University), Takahito Nakamura, Kentaro Kodama, Takahiro Higuchi
					4 3D full-body optimal control simulations with change of direction directly driven by motion capture data Author: Marlies Nitschke (Friedrich-Alexander-Universität Erlangen-Nürnberg), Robert Marzilger, Anne Danielle Koelewijn
					5 Muscle activity changes during turning in persons with parkinson's disease Author: Mirabel Ewura Esi Acquah (Shanghai Jiao Tong University School of Medicine), Wang He, Wei Chen, Xiaoli Guo, Dongyun Gu
					6 Assessment of Gait and Balance Impairment in Individuals with Lower Limb Loss during Timed Up and Go Test Using Wearable Sensors Author: Kylee Seto (Pacific University), Gabriel Camilli, Madelyn Foulk, Isabel Lin, Sara Tomlinson, Tzurei Chen
~14:45	~6:45	~22:45	~1:45		
14:45	6:45	22:45	1:45	Break	



				Auditorium(Hybrid)	
JST	BST	PDT	EDT	Event	
15:00	7:00	23:00	2:00	Oral Session 3	"Estimation and Sensing"
				1	Quantitative assessment of fine motor control in school children using inertial sensors Author: Maria Cristina Bisi (University of Bologna), Alice Masini, Stefania Toselli, Sofia Marini, Laura Bragonzoni, Andrea Ceciliani, Marcello Lanari, Alessandra Sansavini, Alessia Tessari, Davide Gori, Laura Dallolio, Rita Stagni
				2	Design of a care pathway in telerehabilitation on respiratory exercise and physical reactivation of patients suffering from respiratory diseases or COVID-19 Author: Federico Caramia (University of Rome "Foro Italico"), Emanuele D'Angelantonio, Federica De Angelis, Leandro Lucangeli, Isabella Campanini, Antonio Pallotti, Valentina Camomilla
				3	Designing a Customized Wearable Human Activity Recognition System based on Virtual Avatar and Synthetic Acceleration Data Author: Chengshuo Xia (Keio University), Yuta Sugiura
				4	<i>Withdrawal</i>
				5	Identifying the requirements for a sensor-based system to conduct Lower Limb Prosthesis Patient Activity Level Assessments Through Interviews Author: Matthew Wassall (University of Salford), Sibylle Thies, Malcolm Granat, Saeed Zahedi
				6	Novel distance estimate calibration procedure for Ultra-wideband sensor swarm: Towards stable and accurate clinical application in movement analysis Author: Vinish Yogesh (Roessingh Research and Development), Lisanne Grevinga, Carsten Voort, Adhithya Ramamoorthy, Jaap Buurke, Peter Veltink, Chris Baten
~16:15	~8:15	~0:15	~3:15	Break	
16:30	8:30	0:30	3:30	Oral Session 4	"Sports"
				1	<i>Withdrawal</i>
				2	<i>Withdrawal</i>
				3	Estimating vertical ground reaction force during running with 3 IMUs Author: Bouke Leonard Scheltinga (University of Twente), Hazal Usta, Jasper Reenalda, Jaap Hilbert Buurke
				4	Kinematic characteristics of the cue stick motion in cue sports Author: Jing Wen Pan (Nanyang Technological University), John Komar, Pui Wah Kong
				5	Impact of rhythm on climbing fluidity as measured with Magneto Inertial Measurement Units Author: Riccard Moretti (University of Rome "Foro Italico"), Paolo Brasiliano, Valentina Camomilla
				6	Comparative analysis of snatch and clean techniques in weightlifting Author: Batbayar Khuyagbaatar (Mongolian University of Science and Technology), Dagiimaa Enkhtaivan, Munkhbat Tumurbaatar, Tserenchimed Purevsuren, Ganbat Tumen-Ulzii, Khosbayar Tsenkherjav, Yoon Hyuk Kim, Ganbat Danaa
~17:45	~9:45	~1:45	~4:45		

				Auditorium(Hybrid)	
JST	BST	PDT	EDT	Event	
9:15	1:15	17:15	20:15	Woltring Memorial lecture	Dr. Kenton Kaufman (Mayo Clinic, US)
10:00	2:00	18:00	21:00	Keynote Lecture 5	Dr. Hiroaki Hobara (Tokyo University of Science, Japan)
10:30	2:30	18:30	21:30	Break	
10:45	2:45	18:45	21:45	Oral Session 5	"Pathological gait"
				1 Functional and morphological data to support pre- and post-operative evaluations in high-tibial osteotomy Author: Claudio Belvedere (IRCCS Istituto Ortopedico Rizzoli), Miriana Ruggeri, Harinderjit Singh Gill, Alisdair MacLeod, Alberto Grassi, Giacomo Dal Fabbro, Stefano Zaffagnini, Alberto Leardini	
				2 Better Recovery of Medio-Lateral Gait Balance Control in Older People with Total Knee Arthroplasty via Mid-Vastus Approach Than via Lateral Parapatellar Approach Author: Pei-An Lee (National Taiwan University), Hwa-Chang Liu, Tung-Wu Lu	
				3 Gait Classification of Healthy and Post-stroke Individuals Using MTC-based Statistical Descriptors Author: Nusrat Sadia Khan (Victoria University), M Tarik Arafat, Catherine Said, Lisa James, Soheil Bajelan, Rezaul Begg	
				4 Motion measurement and analysis for Functional Independence Measure evaluation Author: Shino Matsuura (Hiroshima University), Hiroaki Kimura, Kazuhiko Hirata, Yui Endo, Mitsunori Tada, Tsubasa Maruyama, Yuichi Kurita	
				5 IMU-based assessment of motor control in a population of young subjects with idiopathic scoliosis Author: Rita Stagni (University of Bologna), Federico Vanzini, Roberto Tedeschi, Maria Grazia Benedetti, Maria Cristina Bisi, Giuseppina Mariagrazia Farella	
				6 Estimation of a linear wear index for total hip arthroplasty - A simulation study based on musculoskeletal modelling Author: Victor Beauseryoy (Univ Lyon 1), Raphael Dumas, Florent Moissenet	
~12:00	~4:00	~20:00	~23:00		
12:00 ~12:30	4:00 ~4:30	20:00 ~20:30	23:00 ~23:30	Luncheon Seminar 2 : Presented by Zero C Seven, Inc.	Human body movement analysis for clothing optimisation based on 4D scanning Prof. Dr. Yordan Kostadinov Kyosev (Chair of Development and Assembly of Textile Products / TU Dresden, Germany) Porcar-Seder, Rosa (Technologies Director / Instituto de biomechanica, Universitat Politecnica de Valencia, Valencia, Spain)
12:30				Break	



				TUS(Onsite)	
JST	BST	PDT	EDT	Event	
13:30				Poster Session / Abst. ID	
				003 Effects of training volume on lower limb kinematics in fast and slow running speed conditions in elite marathoners Author: Jiaxin Luo (Shanghai University of Sport), Fanning Zhang, Liqin Deng, Wing-Kai Lam, Fan Yang, Xini Zhang, Weijie Fu	
				005 Correlation between center of mass variability and ball velocity in college baseball pitchers in markerless motion capture: A pilot study Author: Shiu-Min Wang (National Taiwan University), Wei-Li Hsu, Kuang-Wei Lin, Jyh-How Huang, Yuh-Renn Wu	
				009 Detection of fall-risk-related gait differences in elderly using micro-doppler radar remote sensing Author: Kenshi Saho (Toyama Prefectural University), Masahiro Fujimoto, Yoshiyuki Kobayashi, Michito Matsumoto	
				010 Classification of pants-related motion differences while ascending a step Author: Toshiyuki Hoshiga (Toyama Prefectural University), Kenshi Saho, Naoyuki Takashima, Masaaki Iwata, Muneharu Inagaki	
				012 The impact of walking speed on the energetic behavior within the foot and ankle structures Author: Wataru Kawakami (Hiroshima University), Yoshitaka Iwamoto, Junpei Sekiya, Yosuke Ishii, Makoto Takahashi	
				016 Kinematic characteristics of gait waveform data associated with frailty: an application of principal component analysis Author: Wakako Tsuchida (National Institute of AIST), Yoshiyuki Kobayashi, Koh Inoue, Kumiko Yoshihara, Toshihiko Ooie	
				017 A robust markerless 3D human motion estimation method for pitching in the field Author: Chiao Lai (National Taiwan University), Yun-Wei Chiu, Kuei-Ting Huang, Chia-Chian Chan, Pei-Yuan Wu, Jyh-How Huang, Wei-Li Hsu, Feng-Li Lain, Yuh-Renn Wu	
				018 Effects of simulated lower visual field loss and light touch on gait stability Author: Makoto Takahashi (Hiroshima University), Fumiya Miyoshi, Kanako Shiraiishi, Daisuke Iwaki, Yosuke Ishii, Yoshitaka Iwamoto	
				019 Intervention for improving walking through a narrow space in the elderly Testing the indirect method of the fingertip contact with an obstacle Author: Tomoki Hakamata (Tokyo Metropolitan University), Yoshitsugu Kondo, Daisuke Muroi, Takahiro Higuchi	
				028 3D description of knee movements with a two IMU based wearable device: CHAKAMO Author: Maria Rene Ledezma (Universidad de la República), Dario Santos, Franco Simini	
				029 Effect of lateral wedge length on knee adduction moment reduction mechanics during gait Author: Yoshitaka Iwamoto (Hiroshima University), Ryosuke Takeuchi, Yasutaka Takeuchi, Junpei Sekiya, Yosuke Ishii, Masakazu Ishikawa, Nobuo Adachi, Makoto Takahashi	
				030 Hip adduction movement in wider step width gait affects the hip adduction moment impulse Author: Shun Ezumi (Hiroshima University), Yoshitaka Iwamoto, Yosuke Ishii, Makoto Takahashi	
				032 Influence of body form and gait pattern on aesthetic visual impression from a third-person perspective Author: Sakiko Saito (Nippon Institute of Technology), Momoka Saito, Megumi Kondo, Yoshiyuki Kobayashi	
				035 The effect of maximum voluntary isometric contraction immediately before drop jump on jump performance Author: Taiki Ino (Tokai University), Hiroshi Yamada, Keita Ogawara, Shuichi Uchiyama, Shinya Endo, Seiji Miyazaki	



				TUS(Onsite)	
				oVice(Online)	
JST	BST	PDT	EDT	Event	
				037 Using 3D motion capture for cultural assets preservation (an example on inheriting traditional puppet show) Author: Yuhua Hsu (National Yang Ming Chiao Tung University), Bing-Shiang Yang	
				039 The mechanism causing the superiority forward step technique relative to false step technique for a lateral sprint start. Author: Takahiko Sato (Biwako Professional University of Rehabilitation), Yusuke Fukuhara, Yuto Kobayashi, Tadao Isaka	
				041 Influence of rearfoot frontal plane movement on midtarsal joint stiffness during walking Author: Junpei Sekiya (Hiroshima University), Yoshitaka Iwamoto, Wataru Kawakami, Yosuke Ishii, Makoto Takahashi	
				046 Markerless motion measurement system using single RGB-D camera for squat exercise Author: Yota Sekiguchi (Tokyo University of Science), Tatsuru Kamiyama, Takuya Hashimoto, Kenta Matsumoto, Hiroshi Kobayashi	
				047 Biomechanical strategies in patients with unilateral posterior cruciate ligament deficiency during uphill walking Author: Shih-Wun Hong (Tzu Chi University), Tung-Wu Lu, Jyh-Horng Wang, Chung-Chao Liang	
				050 Effects of bilateral subthalamic deep brain stimulation on lower limb joint support during gait in patients with advanced Parkinson's disease Author: Mei-Ying Kuo (China Medical University), Chi-Chung Kuo, Pei-Yeh Chiang, Tung-Wu Lu	
				053 Measurement of lifting posture using pose estimation Author: Moemi Saito (Ritsumeikan University), Shima Okada, Wang Tianyi, Masaaki Makikawa, Masanobu Manno	
				055 Kinematic strategies for obstacle-crossing in older adults with amnesic mild cognitive impairment Author: Shiu-an-Huei Lu (National Taiwan University), Yi-Chun Kuan, Yu-Lin Tsai, Tung-Wu Lu	
				064 Estimation of joint angle during walking from sparse IMUs using deep learning Author: Yuji Kumano (Tokyo University of Science), Suguru Kanoga, Haruki Toda, Masataka Yamamoto, Hiroshi Takemura, Mitsunori Tada	
				067 New mechanism to prevent unintended knee flexion of passive prosthetic knee Author: Mai Murabayashi (Kagawa University), Koh Inoue	
				068 Normal range of motion of hip, knee and ankle joints in Mongolian (Normal range of motion of Mongolian) Author: Danaa Ganbat (Mongolian University of Science and Technology), Batbayar Khuyagbaatar, Munkhbat Tumurbaatar, Tserenchimed Purevsuren	
~15:00					
15:00				Free Time	
17:00 ~21:00	9:00 ~13:00	1:00 ~5:00	4:00 ~8:00	Online Poster + Mentor Session	



				Auditorium(Hybrid)	
JST	BST	PDT	EDT	Event	
9:00	1:00	17:00	20:00	Keynote Lecture 6	Dr. Frances Sheehan (National Institute of Health, US)
9:30	1:30	17:30	20:30	Keynote Lecture 7	Professor Franco Simini (Universidad de la República, Uruguay)
10:00	2:00	18:00	21:00	Break	
10:15	2:15	18:15	21:15	Oral Session 6	"Methodology"
				1	Can we combine data sets? Feature extraction and clustering motion capture data Author: Sophie Fleischmann (Friedrich-Alexander-Universität Erlangen-Nürnberg), Marlies Nitschke, Robert Marzilger, Anne Danielle Koelewijn
				2	Recognition of pathologic gait patterns in 3D gait data using a self-organizing neural network Author: Sina David (Vrije Universiteit Amsterdam), Michiel Punt, Gabor J Barton
				3	Influence of multibody kinematics optimization on knee intersegmental moments assessment Author: Zoé Pomarat (Univ Claude Bernard Lyon 1), Sacha Guitteny, Raphael Dumas, Antoine Muller
				4	Single RGB Camera Overground Gait Assessment System: Accuracy of Spatiotemporal/Kinematical Parameters, and COM Acceleration Author: Yuto Ishige (Tokyo University of Science), Masataka Yamamoto, Hiroshi Takemura
				5	Comparison of Kinematics Between Theia Markerless and Conventional Marker-Based Gait Analysis in Clinical Patients Author: Tishya A. L. Wren (Children's Hospital Los Angeles), Pavel Isakov
				6	Assessment of a markerless motion capture system for upper extremity joint kinematics during boxing Author: Lankar Kumar Bhrigu (Univ Lyon 1), Thibaud Goyallon, Anais Chaumeil, David Pagnon, Issa Moussa, Antoine Muller, Mathieu Domalain, Lionel Reveret, Raphael Dumas, Thomas Robert
~11:30	~3:30	~19:30	~22:30		
11:30	3:30	19:30	22:30	Break	
11:45	3:45	19:45	22:45	Oral Session 7	"Gait and Posture"
				1	Investigation and Quantification of Physiotherapist Perceptions of Optimal Sitting and Standing Posture in Normal and Obese People Author: Jiling Ye (Shanghai JiaoTong University School of Medicine), Ziang Jiang, Lili Xu, Rongshan Cheng, Tsungyuan Tsai, Shijie Chen
				2	Towards a wearable measuring system for Idiopathic Toe Walking gait analysis Author: Paolo Brazilian (University of Rome "Foro Italico"), Paolo Di Feo, Eugenio Di Stanislao, Martina Alvini, Giuseppe Vannozi, Valentina Camomilla
				3	Shock attenuation in uphill, downhill and level ground outdoor running Author: Aida Chebbi (University of Oregon), Seth Donahue, Yuta Suzuki, Rachel Robinson, Michael Hahn
				4	<i>Withdrawal</i>
				5	The dark side of the work: Internal vs. external mechanical work of locomotion Author: Germen Pequera (Univ. de la República), Carlo Massimo Biancardi
				6	Biomechanics in Arts of Dance - didactics and aesthetics improved by 3D motion analysis Author: Maximilian Alexander Stasica (Technischen Universität Darmstadt), Martin Puttke, André Seyfarth
~13:00	~5:00	~21:00	~0:00		
13:00	5:00	21:00	0:00	Closing Ceremony	
~14:15	~6:15	~22:15	~1:15		