Keynote Presentations – Part I

Topic:	**Development Strategies and Implementation of Athlete Management System for Elite Athletes**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Mr Tom CRAMERI**
	AMS Manager, Sports Intelligence & Analytics, Australian Sports Commission, Australia

The Athlete Management System (AMS) is coming up to its 10th year of usage within the Australian Institute of Sport (AIS). This presentation will look at some of the key strategies the AIS has adopted to implement this national data management and analysis system for more than 30,000 athletes, coaches and staff. The goal will be to explore successes and key learnings over the last 10 years and some practical examples that drove the success of integrated software across the network.

Looking towards the horizon, we will explore ways in which the AIS looks to innovate the areas of data management, technology and analytics over the next 10 years in the lead up to the 2032 Brisbane Olympic Games.

Mr Tom CRAMERI is the Athlete Management System (AMS) Manager at the Australian Institute of Sport, where he manages data and analysis for thousands of practitioners across 8 different Institutes and over 40 different sports. He brings extensive experience to the role from several years of working across Europe and the USA with Fusion Sport as a Program Manager. Here he consulted with some of the most globally recognized sporting organisations like Liverpool FC and The Dallas Cowboys, helping them centralise and analyse their medical and performance data in Smartabase.

Prior to this global consulting role, Tom gained his degree in Exercise and Sports Science and worked as a Strength and Conditioning coach with elite athletes in golf and rugby in Melbourne, Australia.

Topic:	**Does Altitude/Hypoxic Training REALLY Enhance Exercise Performance?**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Professor Grégoire MILLET**
	Institute of Sport Sciences of the University of Lausanne (ISSUL), Switzerland

The effectiveness of altitude training in endurance sports has been questioned in recent years. Few physiologists argued that altitude-induced benefits (live high train low: live high train high ...) are only due to placebo effects and are not based on established physiological adaptive mechanisms.

In this talk, we provide the most updated data on the hematological and peripheral adaptations to altitude training and establish that the variety of hypoxic methods is relevant for a large range of sports. We argue that the expertise is not only of mastering one method but on the combination of several environmental stressors. The so-called maladaptation due to altitude is not justified for the methods currently used by a vast majority of elite endurance athletes. Nevertheless, it requires a high level of expertise for minimizing the potential side effects of altitude exposure and for maximizing the expected beneficial outcomes.

Professor Grégoire MILLET is a Professor of Exercise Physiology at ISSUL in Lausanne, the "Olympic Capital".

His main research topics are: (1) Physiological responses to exercise in hypoxia for patients or athletes; (2) Optimization of interval-training; (3) Mechanical/Physiological coupling in sport locomotion; (4) Analysis of fatigue (Neuromuscular and Heart Rate Variability); (5) Ultra-endurance.

He has published more than 440 articles including 4100 scientific articles in peer-reviewed indexed journals, over 40 book chapters and 6 books on endurance or altitude training (H-index = 78. Number of citations > 21000). He is regularly invited to conferences worldwide. He is the chief-editor of "Frontiers in Sports and Active Living" and the director of the books collection "je bouge …".

In the first part of his life, he was a professional triathlete (French Champion) and was coaching elite triathletes successively in the French, UK or Hong Kong teams. Grégoire attended several Olympic Games. He worked as a senior physiologist at Aspire Academy, Qatar (2004-2008). He participated in ultra-endurance event in different sports (Vasaloppet; Embrun or Hawaii Ironman; Tor des Geants).

Recent Developments in Asia – Part I

Topic: **Sports Technology and Environment at NSTC (TPE)**
Presentation Date: Friday, 17 March 2023 (Day One)
Speakers: **Dr Yung-Hsing CHIU**
Deputy Director of the Sports Science and Research Department, National Sports Training Center, Chinese Taipei

Mr Wei-Ping WANG
Sport Biomechanist
National Sports Training Center, Chinese Taipei

With the growth of manpower and capabilities of the national training base, as well as the support of the government budget and decision makers, our training support for national athletes is getting better and better. Whether it is through the introduction of the most high-end sports technology in the world, or through the establishment of a complete and advanced supporting environment, the coaches and athletes can get practical advice for improving their performance.

In addition, by programming simple analysis applications to replace the original manual operations, real-time support efficiency and effectiveness can be improved. Recently, AI image recognition technology has been widely used in various industries. For athletes, the combination of images and data is undoubtedly the best way to examine their sports skills. Through silhouette analysis, videos featuring a set of simulated movements and various kinematic data can be quickly produced, which can eliminate the time-consuming work and movement impact of traditional analysis, assist sports coaches in correcting elite players' movements, and improve the potential of sports biomechanics in supporting sports skill training.

Dr Yung-Hsing CHIU received a Ph.D. degree in sports biomechanics from the National Taiwan Sport University in 2015. His main areas of interest are automation system, AI, image recognition, fluid dynamics, motion analysis, data processing, sports information system, etc. He joined the National Sports Training Center in 2018 and was responsible for supporting the national sports team in sports biomechanics and sports information analysis. At present, being the deputy director of the Sports Science and Research Department, he leads his team to develop and conduct various effective ways to improve athletes' sports performance, such as solving the problems encountered in scientific training practice and improving training efficiency through various software and hardware methods.
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Mr Wei-Ping WANG received a M.S. from the National Taiwan University of Sport in 2021, currently working at the National Sports Training Center as the person in charge of sports biomechanics and scout. His expertise includes sports biomechanics analysis and data analysis. He supplies the national sport teams preparing for Asian Games and Olympic Games with kinematics and kinetics testing, and he also develops test programs and protocols for each sport.

Topic:	**Technical Innovation Cases of Chengdu Sport University (CDSU) in High-level Athletes**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Professor Mingda LI**
	Chengdu Sport University, China

Firstly, on the basis of CDSU's development of high-level sports programs, the overall conditions, sports achievements, and influence of CDSU's competitive sports development are briefed. Secondly, rhythmic gymnastics, track and field, weightlifting, and free boxing programs are studied as cases to analyze the reasons for good results, among which the focus goes to the strategies of high-level athletes' special skills improvement and initiatives of technical innovation development in four programs. Finally, on the basis of CDSU's development orientation, the future development plans of CDSU's competitive sports are briefly introduced in terms of program arrangement, selection of excellent athletes and competitive ability improvement strategies.

Professor Mingda LI, PhD, Professor and Doctoral Supervisor of Chengdu Sport University (CDSU), Visiting Scholar of Ohio State University, University of Arkansas, and University of Hamburg, a target candidate of the "Hundred Young and Middle-aged Professionals Program" of the General Administration of Sport of China, and one of High-level Overseas Talents of Sichuan Province. Professor Li has presided over five programs at provincial and ministerial levels or above, including the programs of National Social Science Foundation of China and the decision-making consultation programs of the General Administration of Sport of China, and published nearly 20 academic papers in core journals. His main research fields are competitive sports development and sports teaching and training.

Topic:	**Managing Data Across the High Performance Sport System**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Mr Jiaren LOW**
	Director, Future Systems, Singapore Sport Institute, Sport Singapore, Singapore

The collection, management, and analysis of data in high performance sport are critical to both athlete development and sport system performance optimisation. This presentation will discuss strategies for managing data in high performance sport as well as challenges associated with collecting, integrating, and analysing data across the sport system, including data quality, privacy concerns, and organisational barriers. To address these challenges, we will present ideas for data management, including data standardisation, collaboration across the sport system, and the use of technology to streamline data collection and analysis. Finally, we will discuss the importance of continuous improvement in data management practices to drive athlete development and sport system performance optimisation.

Mr Jiaren LOW is the Director of Future Systems at the Singapore Sport Institute where he is responsible for exploiting technology and building a long-term strategy for Singapore's high performance sport system. He is a former national basketball player with almost 20 years of experience in both Information Technology and Sport Development. Jiaren joined Sport Singapore in 2014 and took on leadership roles in corporate strategy and organisation development before launching CoachSG, a coaching and leadership development academy for sport coaches in Singapore. He was also a member of the organising committees of the Singapore 2015 South East Asia Games and ASEAN Para Games. Prior to his current role, Jiaren served as the Deputy General Manager of the Singapore Slingers, Singapore's only professional basketball team. Jiaren holds a Master's in Sport Management from Columbia University and a Bachelor's in Electrical Engineering from the University of Michigan, Ann Arbor.

Topic:	**The Use of Data Analytics and Technology for Injury Prevention and Management Within a Youth Athlete Population**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Dr Matthew WYLDE**
	Head, Performance Pathways Science, National Youth Sports Institute, Singapore

The ongoing proliferation of technology and data analytics within the sports industry has provided practitioners with new insights which have enabled a more proactive approach to injury management. This presentation will explore a variety of approaches which have been utilised within a youth sport training environment. These approaches include the use of historical sport-specific injury data to prescribe rehabilitation programmes to a youth athlete population, the application of regular isometric assessments to identify and strengthen movements with a high injury risk in female Water Polo players and the exploration of wearable technology to potentially manage the return to training following lower limb injury in an adolescent Badminton population.

Dr Matthew WYLDE is Head of Performance Pathways Science at the National Youth Sports Institute. He has been within the Singapore high-performance system for 15 years, having held roles with the Singapore Sport Institute (2008-2012), Singapore Sports School (2012-2015) and National Youth Sports Institute (2016-). Dr Wylde obtained his PhD from Bournemouth University (UK) and also holds an MSc in Performance Analysis from Cardiff Metropolitan University (UK). His PhD research explored the use of Inertial Measurement Units to assess loading profiles in adolescent Badminton players, with a view to optimising training and improving injury management.

Topic:	**The Application of Sports Biomechanics and Technology in Elite Sports in HKSI**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Mr Danny CHU**
	Sport Biomechanist, Hong Kong Sports Institute, Hong Kong, China

The Sport Biomechanics and Technology Centre of the HKSI provides measurement and analysis of sporting skill and tactic. Key Performance Indicators of an event are identified with the coach before any measurement. Performance progress monitoring is used to make sure effective support could be delivered. The Centre employs classical motion analysis, sport specific device and web-based competition data analytics platform to examine and evaluate athlete's sport performance to enhance skill acquisition. The Centre also makes use of bespoke customized technology solution to support athletes and coaches in training and competition. If in-house solution is not available, collaboration projects with universities/institutes may help to deal with complicated tasks. Special interests are in the area of computer vision machine learning on video analytic and wearable sensor technology in upcoming projects. Both technologies can speed up our data processing time and provide output after a training set in a timely manner.

Mr Danny CHU received his MPhil degree from the Department of Sports Science and Physical Education at the Chinese University of Hong Kong in 2000. He is also a NSCA Certified Strength and Conditioning Specialist. He served as an industrial supervisor of the HKU medical engineering internship program. He has worked with the Hong Kong Sports Institute for more than 20 years and is currently a Sport Biomechanist in the Sport Biomechanics and Technology Centre at the Institute. His areas of interest are motion analysis, game analysis and technological enhancement in elite training. He has extensive experience in providing on-field performance analysis to various sports teams in local and overseas supports.

Recent Developments in Asia – Part II

Topic:	**NSTC's Preparation for 32nd SEA Games**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Miss Makron CHANN**
	Officer of Information Office, National Sports Training Center, Cambodia

The movement of sports plays an important role in the state's development. The 2023 Southeast Asian (SEA) Games is the first time for Cambodia to host a SEA Games as Cambodia had previously declined to host the 1963 edition. The 32nd SEA Games is going to be the biggest sport event in Cambodia. This presentation will highlight on how National Sports Training Center assist the Government in the preparation of 32nd SEA Games. NSTC plays a very crucial role in working together with National Sports Federation and the Cambodia SEA Games Organizing Committee (CAMSOC) in 2023 to ensure that our athletes are fully prepared for the major game.

Miss Makron CHANN is currently officer of information office at the National Sports Training Center, Ministry of Education, Youth and Sport. She graduated in 2018 with a bachelor's degree in International Relations from the Royal University of Law and Economic. She spent her last year in university doing an internship for both international organisations and for government. As she gained her interest in working for the government, she decided to enter one of the most prestigious government schools, Royal School of Administration in 2021 majoring in Public Administration. After graduating in June 2022, she began her completely new journey in Sport Sector at National Sports Training Center. Without any experience in sport, she was given many opportunities to learn new things and with that she strived to learn more hoping that she would be able to contribute back for the development of elite sport in Cambodia.

Topic:	**Challenges to Promote Para Sports in Small Island Nation**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Mr Ahmed MOHAMED**
	Secretary General, Maldives Paralympic Committee, Maldives

Maldives Paralympic Committee (MPC) was registered in March 2019 under the Sports Act of 2015 by the Sports Commissioner of Maldives. MPC was granted Full IPC membership on 26th October 2019 at the International Paralympic Committee (IPC) General Assembly in Bonn, Germany. MPC is a Member of Asian Paralympic Committee. We, as the governing body of the Paralympic Movement, face various challenges in promoting and developing the Paralympic movement throughout the country. The most difficult barrier to overcome is the geographical isolation, difficulty in acquiring sports equipment and lack of financial support. Due to the geographical isolation, we face a lot of challenges in travelling and spreading the Para movement in rural islands. As Maldives is a small nation, Para sports equipment are not being manufactured and it is difficult to acquire these equipment from abroad. As a result, development of technical officials, coaches and training of athletes are limited.

Mr Ahmed MOHAMED currently serves as the Secretary General of the Maldives Paralympic Committee and Chairperson of the Maldives Association of Persons with Disabilities. Mr Mohamed holds a Diploma in Electrical Engineering awarded in Finland and a Diploma in Sports administration awarded by the IOC-NOC Sri Lanka.

Mr Mohamed worked as an Engineer at State Electrical Company for ten years. He held various posts with sports association – Former Secretary General at Badminton Association of Maldives, Technical Director at Badminton Association of Maldives, Founder of Maldives Association of Persons with Disabilities, Former Vice President at Disability Council of Maldives, Founder of Special Olympics Maldives, and Founder of National Paralympic Committee, Maldives. He has 15 Years' experience in disability development and Inclusion, and 15 Years' experience organising sports for disabled bodies.

Topic:	**Athlete Development Pathways in Japan: Implementing "the Japanese FTEM"**
Presentation Date:	Friday, 17 March 2023 (Day One)
Speaker:	**Dr Masahiro HAGIWARA**
	Researcher, Japan Institute of Sports Sciences, High Performance Sport Center, Japan Sport Council, Japan

This presentation introduces initiatives to promote sport specific athlete development pathway models for Japanese National Federations (NFs) using the Japanese FTEM framework, developed by the Japan Sport Council based on a literature review of the Japanese sport system and previous experience from supporting sport organisations. Based on a previous case study of the development process of two pathway models (one Paralympic sport and one Olympic sport), workshops were conducted to support 20 NFs to construct their pathway models. Since these pathway models use the same framework, they can be compared between different sports to help understand the characteristics of the sports scientifically. Furthermore, it can be applied not only to traditional sports but also to new sports, and is helpful to review the best practice of athlete development pathways in each sport. Such a systematic support framework also helps athletes to prolong athletic careers and to promote career-development after retirement.

Dr Masahiro HAGIWARA is a researcher in the department of sport science and research, Japan Institute of Sport Sciences, Japan High Performance Sport Center, Japan Sport Council. Hagiwara's research focuses on the athlete development pathway and physiology-based training science for athletes. He was a windsurfing athlete aiming for the Beijing 2008 Olympic Games and then had experience in coaching, scientific support and management for Sailing Team Japan. With his knowledge of pathway science and experience in NF, he is helping to create athlete development pathways in Japan. He has visited Hong Kong several times for windsurfing training camps and has made good friends there.

Keynote Presentations – Part II

Topic:	**Delivering Key Insights to Coaches: a Sustainable, National Approach to Data Analysis**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Mr Tom CRAMERI**
	AMS Manager, Sports Intelligence & Analytics, Australian Sports Commission, Australia

This presentation will investigate how the Australian Institute of Sport (AIS) and Athlete Management System (AMS) team delivers key insights to coaches in a sustainable way. Through the usage of centralized technology and systematic approaches we will showcase how our network promotes data analysis and reporting to coaches, athletes and practitioners. We will explore the keys to a successful centralized AMS implementation and how our network has leaned on industry experts across disciplines to develop and champion systematic reporting across the network.

Mr Tom CRAMERI is the Athlete Management System (AMS) Manager at the Australian Institute of Sport, where he manages data and analysis for thousands of practitioners across 8 different Institutes and over 40 different sports. He brings extensive experience to the role from several years of working across Europe and the USA with Fusion Sport as a Program Manager. Here he consulted with some of the most globally recognized sporting organisations like Liverpool FC and The Dallas Cowboys, helping them centralise and analyse their medical and performance data in Smartabase.

Prior to this global consulting role, Tom gained his degree in Exercise and Sports Science and worked as a Strength and Conditioning coach with elite athletes in golf and rugby in Melbourne, Australia.

Topic:	**The Latest Altitude/Hypoxic Training Strategies for Peak Performance in Sports – the Swiss Inputs**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Professor Grégoire MILLET**
	Institute of Sport Sciences of the University of Lausanne (ISSUL) Switzerland

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When looking back to the history of altitude/hypoxic training, several major innovations occurred in the last 10 years.

1. In this talk, we will overview the emergence of a method called repeated sprint training in hypoxia (RSH) in the research group of Prof. Millet, the underlying mechanisms as well as recent findings on the importance of the oxidative-glycolytic balance. Different molecular pathways are discussed. Practical recommendations for intermittent sports will be given. Finally, we present some recent results on the translation of RSH to clinical application and the prevention of endothelial dysfunction and associated diseases.

2. Another method called RSH by hypoventilation at low lung volume (RSH-VHL) was also developed recently. The effectiveness of this later method is shown in several sports and the differences between RSH and RSH-VHL are discussed.

3. The combination of the "traditional" altitude training methods with RSH was the next step called "Living High Training Low and High" (LHTLH) is the latest step. Its benefits in team sports are displayed.

Professor Grégoire MILLET is a Professor of Exercise Physiology at ISSUL (Institute of Sport Sciences) in Lausanne, the "Olympic Capital".

His main research topics are: (1) Physiological responses to exercise in hypoxia for patients or athletes; (2) Optimization of interval-training; (3) Mechanical/Physiological coupling in sport locomotion; (4) Analysis of fatigue (Neuromuscular and Heart Rate Variability); (5) Ultra-endurance.

He has published more than 440 articles including 4100 scientific articles in peer-reviewed indexed journals, over 40 book chapters and 6 books on endurance or altitude training (H-index = 78. Number of citations > 21000). He is regularly invited to conferences worldwide. He is the chief-editor of "*Frontiers in Sports and Active Living*" and the director of the books collection "*je bouge ...*".

In the first part of his life, he was a professional triathlete (French Champion) and was coaching elite triathletes successively in the French, UK or Hong Kong teams. Grégoire attended several Olympic Games. He worked as a senior physiologist at Aspire Academy, Qatar (2004-2008). He participated in ultra-endurance event in different sports (Vasaloppet; Embrun or Hawaii Ironman; Tor des Geants).

Recent Developments in Asia – Part III

Topic:	**Building of Integrated Traditional Chinese and Western Medical Care Model for High-level Athletes in China and Its Application**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Professor Yuanpeng LIAO**
	Chengdu Sport University, China

Since 1958, for more than 60 years, Chengdu Sport University has made great contributions to the development of competitive sports in China by providing medical treatment, rehabilitation and scientific and technological support services for the preparation and competitions at Olympic Games, Asian Games, World Championships, World Cups and other large-scale sport events by virtue of its strengths in sports medicine integrating traditional Chinese medicine and western medicine. In this process, we have gradually established a set of effective medical security model integrating traditional Chinese medicine and western medicine. This lecture gives a brief introduction to the main content and application of this model.

Professor Yuanpeng LIAO, PhD, Chief Physician, Doctoral Supervisor, Secretary of the General Party Branch of School of Sports Medicine and Health, Chengdu Sport University, Vice President of Affiliated Sport Hospital of Chengdu Sport University (CDSU), Chinese Olympic Medical Security Expert, Medical Director of Chinese National Shooting and Archery Teams, and Expert of Healthy China Promotion Action Plan of National Health Commission of the People's Republic of China. He has systematically studied sports medicine and sports rehabilitation in Hong Kong and Germany, been engaged in medical security works of national teams such as hockey, handball, short-track speed skating, shooting, and archery for a long time, and participated in medical security works of major events such as the Olympic Games and the Asian Games for many times.

Topic:	**Exercise-based Injury Prevention**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Dr Philip GRAHAM-SMITH**
	Head of Biomechanics & Innovation, Aspire Academy, Qatar

Patellar tendinopathy ("Jumper's Knee") is a common growth-related injury for youth athletes and an injury that is highly prevalent in athletes who regularly participate in jumping related activities. This presentation will provide an overview of the injury mechanisms and highlight ways in which we have reduced the occurrence through the implementation of the 'Spanish Squat' exercise as a preventative measure, whilst simultaneously increasing plyometric training load. Through the use of an interactive model to assess knee load, based on trunk and thigh angles, we have been able to better understand the progression of the exercise as well as set a target position that meets the typical loads sustained in long, triple and high jump take-offs. The presentation will also highlight how bi-weekly monitoring of jump performance helps us to detect warning signs of fatigue, another risk factor related to this injury.

Dr Philip GRAHAM-SMITH has a long and established career as a biomechanist working in academia, professional sport and industry. He is currently Head of Biomechanics & Innovation at Aspire Academy in Qatar and was formerly Head of Department and Associate Head of School for Business and Engagement at the University of Salford. He is a Fellow and accredited member of BASES, a Chartered Scientist, an ISPAS Level 5 Accredited Performance Analyst, and a Certified Strength & Conditioning Specialist (NSCA). He provided biomechanical support to UK Athletics for 21 years prior to leaving for Qatar in 2013. In the four years leading to the London Olympics, he was consultant Head of Biomechanics at the English Institute of Sport. He was a consultant to the footwear company FitFlops from 2006 to 2013 where he helped to translate biomechanical data into product design and marketing material. He is also the co-founder of ForceDecks, a technology which has been adopted by over 600 high performances sport institutes and professional sports teams worldwide.

Topic: **Machine Learning Revolutionizes Athletic Injury Detection with Thermal Imaging**

Presentation Date: Saturday, 18 March 2023 (Day Two)

Speaker: **Mr Gihan KURUPPU**
Member, National Olympic Committee of Sri Lanka, Sri Lanka

(Authors: Gihan Kuruppu, Asela Ratnayake, Ranga Madhushanka)

Thermal imaging has proven to be a useful tool for detecting and monitoring sports injuries. In recent years, advancements in machine learning have enabled the development of thermal imaging systems that can analyze large amounts of data and identify patterns that are indicative of injury. In this paper, we present a study on how thermal imaging can be used to detect sports related tissue injuries using machine learning algorithms. The study analyzed a large dataset of thermal images from athletes participating in different sports.

The thermal images were used to detect the inflamed zones with different degrees of soft tissue injuries. The thermal detection ranges with values were used to recommend the recovery programmes and the possibility of predicting further injuries.

The results showed that the use of thermal imaging combined with machine learning algorithms could be used effectively to identify the areas with the minor degree of injuries as well as the higher degree of damages in relation to the given thermal detective range with lesser time. The findings of this research can help improve the early detection of sports injuries, allowing for quicker intervention and faster recovery for athletes.

Mr Gihan KURUPPU is an automation engineer and computer vision expert with a passion for sports and a strong interest in using technology to improve athlete performance. With 15 years of experience in weightlifting motion tracking and evaluation, he has developed expertise in sports motion tracking and analysis, as well as tournament management systems. His research for his MPhil degree was on how sports performance changes over time. He made a high-speed image processing algorithm to track sports movements. Currently, he works in the field of robotics and automation, and he constantly strives to apply his expertise to the world of sports. He has developed a comprehensive software framework to support the development of Sri Lankan sports, from skill identification to international athlete performance tracking. This framework covers all aspects of coach management, venue scheduling, injury management, opportunity management for new players, skill assessment, performance-based player ranking, honors and sponsor management, and medical and drug-related expert involvement. Additionally, it includes a MARTS data search facility and a big data analysis facility.

He is thrilled to be attending the 6th ASIA Congress, where he hopes to share his insights and learn from other professionals in the field. He is eager to discuss my findings and exchange ideas with others who share his interest in using technology to improve sports performance. He looks forward to meeting and collaborating with other professionals at the congress.

Topic:	**How Has COVID-19 Pandemic Modified Training Practices of Athletes Around the World?**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Mr Jad Adrian WASHIF**
	Head, Strength and Endurance Sports/ Sports Scientist, National Sports Institute of Malaysia, Malaysia

The COVID-19 pandemic (and lockdowns) impeded the ability of athletes to engage in regular training routines, including access to multidisciplinary team and associated professionals (trainers, sports scientists, medical teams). Most athletes were affected by the postponements and cancellations of events, including those who were training for the Olympics. Global data on athletes (national, world-class, etc.) may shed light on the realities of lockdowns faced by athletes. Higher-level athletes coped better; but all athletes reported a substantial drop in key training variables (weekly frequency, session duration, exercise intensity, and training types/modes). The changes in training practices were sport-specific, with minimal gender differences. Maintenance of sport-specific training was easier in individual sports, but interactive sports such as team, racket, and combat sports were most dramatically impacted. These facets will be discussed in greater detail. The data will inform evidence-based recommendations for the stakeholders to assist with support provision, training strategies, etc. during future lockdowns or lockdown-like scenarios.

Mr Jad Adrian WASHIF is a sports scientist and strength and conditioning specialist with the National Sports Institute of Malaysia (ISN). He is the head of Strength and Endurance Sports and engages extensively with a variety of sports (from elite to youth levels), including athletics, cycling, weightlifting, ice skating, triathlon, etc. He has overseen athletes to major international events, including the Southeast Asian Games, Asian Games, Commonwealth Games, Olympic Games, World Championships, and so on. In 3 years (2020 – early 2023), he has already published 17 scientific articles on the impacts of the COVID-19 lockdown on training practices, sleep patterns, mental health, among others. Additionally, he is a scientific reviewer of ~20 indexed journals. He is a member of a number of professional organisations, including the ACSM, NSCA, ECSS, ASCA, and ACE.

Topic:	**Recommendations for Sleep and Athlete Performance for Major Competitions**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Dr Samuel PULLINGER**
	Head of Sport Science, Inspire Institute of Sport, India

Most elite athletes have reported to experience sleep disturbance, with a quarter of athletes suffering from highly disturbed sleep. It is well established that athletic performance is highly impacted when sleep deprived or 1-3 nights without sleep. Several factors affect sleep, such as training intensities and training times, travel and pressures around competition. Stress and anxiety have also been found to severely impact sleep time and quality, thus influencing competition, recovery and athlete well-being. To help reduce the negative impact of sleep deprivation, certain strategies around sleep and travel education for athletes, will help to mitigate some of the negative impact and optimise athlete sleep and overall performance. Approaches around sleep education, athlete screening, napping and sleep banking will be key when it comes to preparing any athlete to excel in a new environment with the added stress that major competitions bring.

Dr Samuel PULLINGER is the Head of the Sport Science Department at Inspire Institute of Sport, India, and has previously worked at Aspire Academy in Qatar. He obtained his PhD from Liverpool John Moores University, UK and is an accredited Sports and Exercise Scientist with the British Association of Sports and Exercise Sciences (BASES) and Chartered Scientist (CSci). He has attended conferences across the Middle East, Asia and Europe, regularly providing workshops to several Universities, Sports Federations and the Olympic Committee of Asia. His main areas of focus are around building athlete strategies that focus on sleep, travel, external environments to improve performance. Dr Pullinger was part of the team that published the 2021 expert consensus recommendations around sleep and the athlete.

Topic:	**How SAT Sports Science Center Support Thai Athletes to Hangzhou 2023 and Paris 2024**
Presentation Date:	Saturday, 18 March 2023 (Day Two)
Speaker:	**Dr Chedsada CHARUPHONGA**
	Sports Medicine Physician, Sports Science Center, Sports Authority of Thailand, Thailand

The Sports Science Center at the Sports Authority of Thailand (SAT) has a rich history of supporting Thai athletes. Established in 1966, the center has undergone several relocations and renovations, with the most recent one in 2020 resulting in a state-of-the-art facility with modern equipment. The center comprises various divisions, including a sports medicine and rehabilitation clinic, performance and physiological laboratory, performance-improving gym, and more. The center's goal is to support Thai athletes in achieving their full potential, and to that end, it provides a range of services, such as pre-participation exams, periodic performance testing, weight training facilities, sports medicine and rehabilitation services, as well as nutritional and psychological consultations. With the 2022 Hangzhou Asian Games and the 2024 Paris Olympics on the horizon, the center is committed to helping the Thai national team succeed on the world stage.

Dr Chedsada CHARUPHONGA is a passionate sports medicine specialist with a Master of Science degree in sports and exercise medicine from Queen Mary University of London. He co-authored two groundbreaking systematic reviews and meta-analyses about neuromuscular change of the knee during his postgraduate studies. In his current role as the sole physician at the Sports Science Center at the Sports Authority of Thailand, he focuses on injury surveillance, prevention, and return-to-sport strategies. He has a unique combination of medical expertise and passion for sports that sets him apart from others in the field. Doctor Chedsada is a skilled diagnostician and a compassionate partner who understands the importance of sports to his patients. His dedication to his work has earned him the respect of colleagues and athletes alike, making him a promising figure in sports medicine in Thailand.