



PhD POSITION AVAILABLE

Development of a physiological, athletics'-specific, thermal stress index for exercising individuals

Background

The Health and Science Department at World Athletics, together with the University of Rome "Foro Italico" are looking for a highly motivated candidate to undertake a three-year PhD to develop a physiological, Athletics' specific thermal stress index for exercising individuals. The research project, which is fully funded by World Athletics, will help quantifying the thermal stress that endurance athletes, competing in race-walking and long-distance running events, experience in cold and warm environments, and estimate the risk of temperature-related illnesses.

How will it work?

The three-year PhD project will start 1st of February 2023. The successful applicant will be based in Rome, Italy and conduct research together with the World Athletics' Health and Science Department in Monaco. As part of the PhD program, the candidate will be expected to have on-going involvement within the World Athletics thermal stress research program and be available to travel to World Athletics competitions that are relevant to the project. The PhD project is conducted in partnership with the German Weather Service based at the University of Freiburg (Germany) the School of Sport, Exercise and Health Sciences (SSEHS) and the National Centre for Sport and Exercise Medicine (NCSEM; an IOC Research Centre) at Loughborough University (UK). The candidate will work closely with these institutions and be available to travel or temporarily relocate to these in line with project needs.

Are you eligible?

Students from all countries are eligible to apply for the position. However, you must possess a project- relevant First-class Undergraduate and/or Postgraduate Degree (e.g., exercise physiology, sports sciences, or environmental sciences) alongside generally excellent academic achievement. Well-developed knowledge and research skills in data analysis and data mining whilst being proficient in one or more coding language are essential. Understanding and knowledge of thermo-physiology and/or environmental sciences are highly desirable. The PhD project will be in English, and the candidate must prove proficiency also in scientific writing.

Essentials

- First-class Undergraduate and/or Postgraduate Degree in the relevant discipline (e.g., exercise physiology, sports sciences or environmental sciences, etc.)
- Experience collecting and analysing data from elite athletes/practitioners
- Experience in programming, modelling, and coding
- Able to use data mining tools and analysis software
- Fluency in written and spoken English

Desirable

- Understanding of thermo-physiology and environmental sciences
- Experience publishing peer-reviewed data, particularly related to elite athletes/practitioners or environmental sciences
- Competency in research-quality questionnaire software and associated statistical analysis.
- Evidence of excellent practice through accreditation, fellowship, and/or registration.
- Desire to work in a challenging interdisciplinary environment

Our offer

- Full-time funded 3-year PhD position;
- World-leading mentorship in a diverse and stimulating dynamic international research environment with excellent facilities;
- An opportunity to obtain a PhD whilst gaining practice-facing experience on a topic of high relevance for sports medicine and science, athletes, and sports governing bodies.

How to apply?

You can apply for this position between the 7th of December 2022 and the 9th of January 2023 12.00 p.m. (CET).

Please include:

- A full academic curriculum vitae in European format
- Two presentation letters, from two University professors or experts in the field of research of the call (please include contact information)
- Title and abstract of your Master's thesis.
- A project proposal based on the research title. This should explain your motivation for studying in this field of research and how you would reach the final objective.

Application process

Candidates that have passed the first selection will be notified on the 10th of January 2023. Interviews of candidates will start on the 13th of January 2023 and can be conducted both in person at the University of Rome "Foro Italico" or online, if requested by the candidate by the 9th of January 2023. Interviews will focus on getting to know the candidate better, including a presentation on the candidate academic background, proposed project, scientific interests and future plans.

Starting date for the PhD is 1st of February 2023.

Further information are available on the University of Rome "Foro Italico" [website](#) and on World Athletics [website](#).

Research team

- Dr. Stéphane Bermon - Health and Science Department, World Athletics, Monaco
- Dr. Paolo Emilio Adami - Health and Science Department, World Athletics, Monaco
- Dr. Frederic Garrandes - Health and Science Department, World Athletics, Monaco
- Prof. Antonio Tessitore – University of Rome "Foro Italico", Italy
- Prof. Andreas Matzarakis - German Weather Service, University of Freiburg, Germany
- Dr. Lee Taylor - School of Sport, Exercise and Health Sciences (SSEHS) and National Centre for Sport and Exercise Medicine (NCSEM), Loughborough University, United Kingdom.

ABOUT THE UNIVERSITIES AND INSTITUTIONS INVOLVED:

Università degli Studi di Roma “Foro Italico”

The University of Rome “Foro Italico” is the fourth largest state university in Rome, and the only Italian state university dedicated to sports and exercise sciences. It was created in 1998 as Istituto Universitario di Scienze Motorie IUSM when it replaced Rome’s Istituto Superiore di Educazione Fisica (ISEF), whose activity had been focused on higher education for Ph.E. teachers. IUSM, now “Foro Italico University” extended the ISEF’s scope, to cover all the fields of interest related to human physical activity: scientific research, coaching for recreational sports and for high-level competitive sports, teaching, fitness, re-education and rehabilitation, organization of sports events, management of sports facilities, etc.

With approximately 2000 members and 60 lecturers, the University is currently top of the charts for national structures and the number of teachers available per student. Strongly open to the community and to international cooperation also has one of the highest percentages of non-resident students (about 30%) and foreign (over 6%)

World Athletics

World Athletics, is the international governing body for the sport of athletics. It includes 214 national federations and 6 continental associations. On the 17 July 1912 in Stockholm, Sweden, following the closing ceremony of the Olympic Games in the Swedish capital, the International Amateur Athletic Federation (IAAF) was founded as the world governing body for the sport of track and field athletics. During the 10 decades that followed, athletics underwent many changes which reflected the political and socio-economic evolution of the wider world. Even the IAAF’s name changed, in 2001 becoming the ‘International Association of Athletics Federations’ to reflect the growth of a professional sporting world which did not exist in 1912. The name changed again in 2019 to its current form, World Athletics.

The University is situated in the northern district of Rome; the area, known as Foro Italico, was built in 1932 when a number of impressive buildings and facilities were conceived as Rome’s sports center. The area represents a typical example of Fascist architecture, characterized by wide use of white marble and triumphal statues and obelisks. The Olympic Stadium, at the back of the Institute, was built on the occasion of the Rome Olympic Games (1960) and has since been the venue of the World Championships in Athletics (1987) and of the World Soccer Championships (1990).

Foro Italico University facilities include modern education structures (11 lecture halls, a computer center, a language center, a specialized library), up-to-date sports facilities (10 fully equipped gyms, 2 swimming pools, a rowing center on the river Tevere) research centers (more than 20 laboratories). The University also has its own audiovisual center for the production of educational and non-professional materials and conference halls for national and international congresses.

World Athletics’ Health & Science Department’s goal is to be the guarantor of the good health and well-being of those who practice athletics. The department has four main activities:

1. to provide a top-quality health service to athletes and their support personnel during competitions organised under the auspices of World Athletics. This includes, but is not limited to, site visits of competition venues and facilities, verification of the implementation of health procedures and sanitation in order to minimise participant’s health risks.
2. to implement and promote scientific research programmes in order to respond to the ever-changing needs in the practice of

athletics, including that of its regulations and recommendations. To achieve these missions, the department relies on its internal resources as well as an international network of experts in the different fields of sports medicine and science but specifically athletics-related.

3. to develop prevention and education programmes for different categories of athletes, coaches, team physicians and all the supporting personnel. These programmes use modern media to communicate and disseminate information (e-learning, social platforms...)

4. to raise awareness via innovative methods, among athletes and the general population, on the health enhancing effects of practicing regular physical activity, in particular athletics and running.

Loughborough University

Loughborough University, as the No.1 University in the world for sport-related subjects, offer unrivalled research, teaching and partnerships across sport, exercise and health sciences. Our expertise spans the fields of biomechanics, cellular and molecular biology, economics, medicine, nutrition, pedagogy, physiology, psychology, sociology, sport management and more. The majority of these activities occur within the School of Sport, Health and Exercise Sciences (SSEHS).

As an International Olympic Committee (IOC) Research Centre, The National Centre for Sport and Exercise Medicine (NCSEM) is an Olympic legacy project delivering research, education and clinical services in sport, exercise and physical activity from three hubs across England. It aims to apply world-class expertise to policies and practice that will benefit the health and wellbeing of the nation – from everyday people at risk of ill health through to elite athletes.

Deutscher Wetterdienst

DWD (Deutscher Wetterdienst) is the official weather service of Germany and holds in Freiburg a Research Centre about Human Biometeorology (ZMMF). ZMMF is responsible for the warnings and information of general and specific population groups in terms of the effects of weather on human health. Specifically heat/cold, UV, pollen distribution and diseases for humans, which relate to weather and weather changes. The effects of climate and climate change on human health are also point of interest. ZMMF in cooperation with University of Freiburg has develop several thermal indices and software modules for the quantification of heat and cold on human health for different approaches (sports and elderly people). Based on RayMan model several studies about the Tokyo and Paris Olympics have been carried out.

University of Freiburg

The University of Freiburg is one of the leading Universities in Germany. The Chair of Environmental Meteorology has expertise in urban climatology and human biometeorology and works in the fields of experimental studies and modeling for urban areas including AI and human biometeorology. The models RayMan and SkyHelios have been developed here and the development is in cooperation with the ZMMF of DWD. Several studies about the effect of weather on sports have been performed (FIFA 2022).