Company Information

SEPTEMBER 2023

About Science to Sport

Science to Sport has offered evidence-based scientific performance consulting in the field of cycling performance since 2008. The company offers expertise in **coaching, biomechanics, laboratory testing, field testing and personalised solutions in performance coaching** for endurance sports, mainly cycling and triathlon.

Science to Sport offers biomechanics and performance testing services through our laboratories in Cape Town, South Africa; Girona, Spain; and Abu Dhabi, UAE. In addition, coaching services are offered around the Globe via online communications and data transfer.

About Science to Sport

The partners at Science to Sport currently provide their coaching and high performance expertise to two World Tour Professional Cycling Teams as well as to the No1. Ranked Global mountain bike team. Coaching is provided to a number of World-class road cyclists, mountain bikers and triathletes globally.

Our laboratories are utilised by the best road, mountain bike and triathlon athletes and are frequented by at least 4 World Tour men's teams and 3 World Tour female teams as well as 4 of the top 20 Global Ironman athletes and many of the leading mountain bike professionals amongst many others.

Science to Sport currently represents the best solution for athletes to access World-leading expertise in performance testing, coaching and cycling biomechanics.

Science to Sport: Partners

Associate Professor Jeroen Swart

Jeroen is a professor of Sports & Exercise Medicine and Exercise Scientist. He has over 50 publications in his fields of expertise which include high performance cycling, cycling physiology, performance testing and medicine. Jeroen has coached numerous leading international cyclists for nearly two decades and is a Coach and Performance Co-ordinator for UAE Team Emirates World Tour Cycling. He has had the privilege of working with 3 different Tour De France winners. Jeroen's personal experience as a multi-time national champion in XCO mountain biking also contribute to his personal success.

John Wakefield

John's cycling knowledge, attention to detail and application of validated science sees his list of athletes span the globe with great popularity. After 4 seasons as Performance Co-ordinator and Coach at UAE Team Emirates World Tour Cycling. John has since made the move to Team BORA-Hansgrohe World Tour Cycling. Over the last decade and a half of coaching and performance, John has worked with a Tour de France winner, a World Champion, World Tour and World Cup winners with Multiple National Titles in both male and female categories. In addition John manages the Science to Sport Performance Laboratory in Girona, Spain with a focus on performance testing and biomechanics.

Science to Sport: Partners

Dr. Mike Posthumus
PhD Exercise Science

Mike’s passion for the science of training and conditioning is demonstrated not only his competitive nature that started in provincial rugby, now focussed on mountain biking, but also in his coaching accolades. He is an honorary senior research scientist, with many published manuscripts. Mike is dedicated to working with like-minded athletes striving to be their best.

Benoit Capostagno
BSc (Med) (Hons) Exercise Science

Ben is a sport scientist, currently completing his PhD, with a focus on training adaptations and fatigue in cyclists, with publications on this topic. As a sought-after coach, Ben has guided both amateur and professional athletes to complete their first one-day or multi-stage event as well as several championship titles.

Reece McDonald
MSc (Med) Exercise Science

Reece’s coaching career began with high performance rowing and he has since transitioned fully into cycling. His intricate knowledge of performance optimisation through periodisation, monitoring and biomechanics has proved invaluable to his athletes who have shown much success under his coaching instruction.

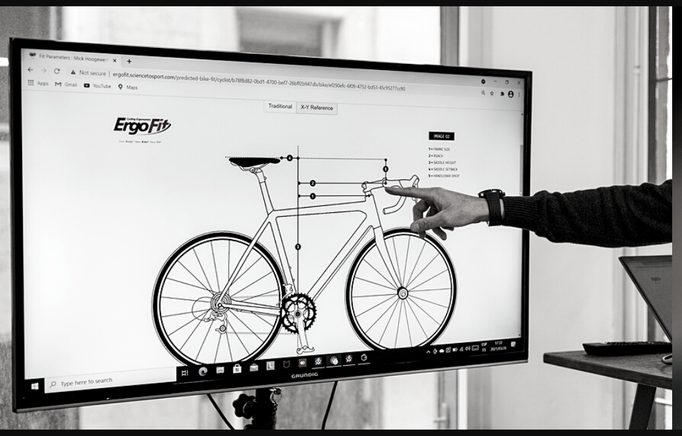
Science to Sport Laboratories

The Science to Sport Laboratories in **Cape Town, Girona and Abu Dhabi** are standardised in terms of equipment and service offerings. This ensures that any services and associated reports are reproducible for athletes who utilise our services at different locations and ensures that the quality of the service is of an equally high standard throughout all of our laboratories.

Quality assurance protocols are in place to ensure that all testing and reporting are conducted according to the same high standard that we have set at all times.

Biomechanics

We utilise our own ErgoFiT system in all of our labs, coupled with 3D kinematics via a custom interface developed exclusively by STT for Science to Sport - and Gebiomized saddle pressure mapping systems to offer a comprehensive and complete biomechanic solution.



Performance Testing Services

We use Cosmed metabolic carts with Lactate Plus analysers and strips to ensure the highest data quality and accuracy. In addition we utilise the Kickr ergometer to allow athletes to use their own bicycle and avoid possible changes in biomechanics from affecting the results.

Research Publications

Our staff are not only informed about about the latest research in cycling performance and biomechanics, but they are often the authors of the most groundbreaking research in cycling and endurance sports.

Some of the highlights of our collective research to date (Science to Sport staff listed in bold font), listed in the annex of this document.

Contact Us

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Research Publications

J. Priego-Quesada, M. Arkesteijnc, W. Bertuccid, R. Bini, F. Carpes, F. Diefenthaeler, S. Dorel, B. Fonda, A. Gatti, W. Holliday, I. Janssen, J. Lopez-Elvira, G. Millour, P. Perez-Soriano, **J. Swart**, P. Visentini, S. Zhang, A. Encarnación-Martínez. Consensus statement on bicycle measurements and cycling kinematics methodology using a Delphi method. In Review

R. Fredericks, A. Rotunno, D. De Klerk, M. De Grandi, J. Suter, P. Vocke, **J. Swart**. Injury and illness patterns in World Tour Cycling. Racing across a pandemic. In Review

J. Swart, A. Rotunno, M. Colls, **J. Wakefield**. Return to play from severe Injury. Unique insights from monozygotic twins in World Tour Cycling. In Review

R. Yila. **J. Wakefield, M. Posthumus**, M. Lambert, **J. Swart**. Internal and external load monitoring in professional cycling. In Review

J. Swart, J. Wakefield, W. Holliday. Anthropometrics, flexibility, training history and bicycle configuration. Differences between amateur and World Tour professional cyclists. In Review

J. Spragg, P. Leo, **J. Swart**. Estimating Critical Power from Mean Maximal Power Values. In Review

R.E. Johansson, **J.Swart**, M.I. Lambert Relationships between performance and pacing at the ultramarathon distance. In Review

G. Krnicar, **J. Swart**, B. Fonda. Effects of foot angle on mechanical effectiveness and oxygen consumption during ergometer steady-state cycling. International journal of sports physiology and performance. In review.

J. Spragg, P. Leo, **J. Swart**. The influence of the intensity of prior work on durability. In Review

J. Spragg, P. Leo, **J. Swart.** Estimating Critical Power from Mean Maximal Power Values. Journal of Sports Sciences. Accepted December 2022

P. Leo, J. Spragg, **J. Wakefield, J. Swart**. Predictors of cycling performance success: Traditional approaches and a novel method to assess performance capacity in U23 road cyclists. Journal of Science and Medicine in Sport. Accepted November 2022

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W. Holliday & **J. Swart.** A dynamic approach to cycling biomechanics. Physical Medicine and Rehabilitation Clinics. 33(1):1-13 (2022). doi: 10.1016/j.pmr.2021.08.00.

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W. Holliday, J. Fisher and **J. Swart.** Anthropometrics, flexibility and training history as determinants for bicycle configuration. Sports Medicine and Health Science. 3 (2) 93 – 100 (2021)

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J.Swart, R.V.P De Villiers, F. Roux and F. Rademan. A tale of two sit-bones: The cyclist ischial hygroma. SAJSM. 31 (1): 1-4 (2019)

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C Webster, TD Noakes, **J Swart** and JAH Smith A carbohydrate ingestion intervention in an elite athlete who follows a LCHF diet. International Journal of Sports Physiology and Performance. 13: 957-960 (2018)

W Holiday, R Theo, J Fisher, **J Swart**. Static versus dynamic kinematics in cyclists: A comparison of goniometer, inclinometer and 3D motion capture. European Journal of Sports Science. 17(9):1129-1142 (2017)

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J Swart, R Tucker, R Lamberts, Y Albertus, MI Lambert. Case Report: Potential causes of chronic anterior knee pain in a former winner of the Tour de France. ISMJ (4): 162-171 (2009)

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