Performance Analysis of Swimming

ISBS 2017 Applied Session – Bruce Mason

The biomechanical analysis of elite competition swimming consists of three separate phases associated with swimming performance. These are associated with: 1. Free Swim analysis, 2. Start, Turn and Relay Changeover analysis and 3. Competition analysis. The free swim analysis consists of analysing the technique, coordination and the forces involved during the free swimming phase. The Start, Turn and and Relay Changeover analysis investigates biomechanically what is occurring within these three phases of a swimmer's performance and how the performance may be improved. The competition analysis consists of analysing what swimmers are doing during actual swimming competition meets to identify the different swimmer's strategies in the competition and why certain swimmers are out performing other swimmers. In the Free Swim analysis Dr Gina Sacilotto will discus aspects of the free swimming and Dr Rod Havriluk will demonstrate his Swimming Analysis system to biomechanically analyse free swimming in a practical pool situation. In the Start, Turn and Relay Changeover Analysis Bruce Mason will discuss the aspects of what is biomechanically analysed during these phases of swimming, how the performance may be improved and the Kistler PAS-S Analysis system will be demonstrated in the pool environment. Dr Jodi Cossor will discus the purpose of Competition analysis and how it is performed and the Contemplas Competition Analysis system will be demonstrated in the pool environment. In the Performance Analysis of swimming session, all delegates attending will first meet in a lecture hall where the various aquatic biomechanics aspects will be discussed. The group will then be divided into three sub groups and will attend the pool sessions where the sub groups will rotate through the three separate sessions.