

# **Sport Informatics – Historical Roots, Interdisciplinarity and Future Developments**

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## **Abstract**

Computer science has become an important partner for sport science. Although many cases for the successful application of computers in sport exist, only a few meta-theoretical mediations on this research field can be found. To fill this gap, this paper looks at the genesis of sport informatics in Germany, discusses the interdisciplinary relation between computer science and sport science and forecasts its development up to the year 2020. Using existing models of interdisciplinarity the paper classifies research activities into four types of cooperation and emphasizes the importance of “genuine” interdisciplinary research. This discussion leads to a compact definition of sport informatics and to a graphical model, which illustrates its subject matter and the structural relations between sport science, computer science and their fields of application. The future section identifies increased computing power and network capacity, networks concepts such as pervasive or cloud computing, small one way electronics, flexible displays and positioning technologies being the most relevant technological improvements for sport. These technologies have a potential impact e.g. on the measurement and reporting of physiological and positional data, on computerized performance analysis, sport clothing and the quality of computer simulations in the fields of sports engineering, motor behavior and physiological adaptation.

**KEYWORDS: SPORT INFORMATICS, THEORY OF SCIENCE, DEVELOPMENT, DEFINITION, FORECAST**