Record Nr. UNINA9910298993703321 Brain-Computer Interface Research: A State-of-the-Art Summary 3 / / Titolo edited by Christoph Guger, Theresa Vaughan, Brendan Allison Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2014 **ISBN** 3-319-09979-5 Edizione [1st ed. 2014.] Descrizione fisica 1 online resource (137 p.) Collana SpringerBriefs in Electrical and Computer Engineering, , 2191-8112 Disciplina 004 005.437 006.3 4019 610.153 610.28 612.8 User interfaces (Computer systems) Soggetti Neurosciences Medical physics Radiation Computational intelligence Biomedical engineering User Interfaces and Human Computer Interaction Medical and Radiation Physics Computational Intelligence Biomedical Engineering and Bioengineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references. Nota di bibliografia Nota di contenuto Contents; Recent Advances in Brain-Computer Interface Research-The BCI Award 2013; 1 Introduction; 2 The BCI Award; 3 The 2013 Nominees: Give Me a Sign: Studies on the Decodability of Hand Gestures Using Activity of the Sensorimotor Cortex as a Potential

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## Sommario/riassunto

This book provides a cutting-edge overview of the latest developments in Brain-Computer-Interfaces (BCIs), reported by leading research groups. As the reader will discover, BCI research is moving ahead rapidly, with many new ideas, research initiatives, and improved technologies, e.g. BCIs that enable people to communicate just by thinking – without any movement at all. Several different groups are helping severely disabled users communicate using BCIs, and BCI technology is also being extended to facilitate recovery from stroke, epilepsy, and other conditions. Each year, hundreds of the top BCI scientists, engineers, doctors, and other visionaries compete for the most prestigious honor in the BCI research community: the annual BCI Award. The 2013 BCI Award competition was by far the most competitive, with over 160 research groups vying for a nomination. The chapters of this book summarize the ten projects that were nominated, in particular the winning project, and analyses how these reflect general trends in BCI development. Each project summary includes an introduction, description of methods, results, and also includes newer

work completed after the project was entered for the competition. The texts are presented in accessible style with numerous supporting pictures, graphs, and figures.