

1. Record Nr.	UNINA9910298965903321
Titolo	Brain-Computer Interface Research : A State-of-the-Art Summary 4 / / edited by Christoph Guger, Gernot Müller-Putz, Brendan Allison
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-25190-2
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (133 p.)
Collana	SpringerBriefs in Electrical and Computer Engineering, , 2191-8112
Disciplina	573.860113
Soggetti	User interfaces (Computer systems) Neurosciences Computational intelligence User Interfaces and Human Computer Interaction Computational Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Brain-Computer Interface Research: A State-of-the-Art Summary 4 (C. Guger, B. Z. Allison, G. R. Müller-Putz) -- Airborne Ultrasonic Tactile Display BCI (K. Hamada) -- Semi-autonomous Hybrid Brain-Machine Interface (D. McMullen) -- Towards an Auditory Attention BCI (P. Brunner) -- Real-time Mapping of Natural Speech in Children with Drug-resistant Epilepsy (R. Arya) -- Heterogeneous BCI- Triggered Functional Electrical Stimulation Intervention for the Upper-Limb Rehabilitation of Stroke Patients (J. Ibáñez) -- Brain-Computer Interfaces for Communication and Rehabilitation Using Intracortical Neuronal Activity from the Prefrontal Cortex and Basal Ganglia in Humans (C. B. Boulay) -- Neurofeedback Training with a Motor Imagery-based BCI Improves Neurocognitive Functions in Elderly People (J. Gomez-Pilar) -- ALS Population Assessment of a Dynamic Stopping Algorithm Implementation for P300 Spellers (B. Mainsah) -- Near-Instantaneous Classification of Perceptual States from Cortical Surface Recordings (K. J. Miller) -- The Changing Brain: Bidirectional Learning Between Algorithm and User (N. Mrachacz-Kersting -- Recent Advances in Brain-Computer Interface Research - A Summary of the BCI Award 2014 and BCI Research Trends (C. Guger, B. Z. Allison, G. R. Müller-

Putz).

Sommario/riassunto

This book describes ten of the most promising brain-computer-interface (BCI) projects to have emerged in recent years. BCI research is developing quickly, with many new ideas, research groups, and improved technologies. BCIs enable people to communicate just by thinking – without any movement at all. Several different groups have helped severely disabled users communicate with 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 2014 BCI Award competition was again competitive, with 69 research groups vying for a nomination. This book summarizes the 2014 BCI Award, including the ten projects that were nominated, the winner, and analyses and discussions of the submitted projects and how they reflect general trends in BCI development. Each of these ten groups provides a chapter summarizing their nominated project, including an introduction, description of methods, results, and newer work completed after the project was submitted. Hence, this book provides a cutting-edge overview of the newest BCI research trends, from top groups, in an easy to read format with numerous supporting pictures, graphs, and figures.
