S-2 Future Directions in Brain/Neuronal Computer Interaction

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Brain-Computer Interface (BCI) research has made great progress recently [1-3]. However, this progress has some negative side effects: growing fragmentation among different researchers, confusion about the best research directions, and ongoing disagreement over terms and definitions. Future BNCI is a Coordination and Support Action funded by the European Commission that aims to counteract these trends by helping new and existing researchers identify each other, encouraging effective collaborations, developing roadmaps and frameworks, and establishing standardized terminology. The knowledge developed in Future BNCI will be disseminated through conferences, workshops, journal publications, a book, and a website. This website (future-bnci.org) is meant as a centralized resource to benefit our BCI community. The website will include many resources that should be useful to the BCI community, including databases of peer-reviewed references , articles in the popular media, researchers and research groups, conferences and other events, and downloadable materials. We will also have a blog, some BCI success stories, and a Wiki. The website will be tailored to meet the needs of different groups, including professional researchers, journalists, students, patients and other potential users, and the public at large. We emphasize that we view this website as a community resource, and rely on you (the BCI community) to help keep it updated and complete. The website is designed to allow people to add new information, pending approval by our consortium, and we encourage you to go to our web page to add (at least) your research group and interests. We also hope to attain some of our other goals through discussion with the BCI community. We welcome your views on (for example) which applications are most promising, how BCIs can best be combined with other interfaces and systems, or which user groups are likely future adopters. Workshops at this International BCI conference and other conferences can facilitate this discourse, and we also welcome your views via our website, other discussions, email, and other mechanisms. We recognize that BCI research is an eclectic field, and we'd like to hear from people from different disciplines (such as neuroscience, psychology, HCI, programming, and different fields of engineering) and different sectors (such as academic, medical, commercial, and nonprofit). Our consortium includes four institutions: TU-Graz, EPFL, University of Twente, and Starlab. The first two institutions are well known for their BCI research, with emphases on signal processing and applications. TU-Graz is responsible for Project Coordination and "Roadmaps and Dissemination" while EPFL is responsible for "Devices, Applications, and Users" University of Twente is a top HCI research institution, and manages the front end of our web page as well as "Application Interfaces and Environments" Starlab is a prominent manufacturer of sensor systems that can detect EEG and other physiological signals, and will manage "Sensors, Signals, and Signal Processing". This International BCI Conference is an excellent venue to discuss our project and its goals with key stakeholders in our research community. We look forward to hearing your views and working toward our goal of a more integrated, effective, focused, and productive research community.

References

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Keywords

BCI, BNCI, future BNCI, roadmaps, standards, frameworks