



Séminaire ISIR
Vendredi 21 septembre 2018 à
10H00

Marco Congedo

Campus Jussieu, 4 place Jussieu, Paris
Salle 304

The use of Riemannian Geometry in EEG-based Brain-Computer Interfaces

Abstract : Despite its short history, the use of Riemannian geometry in brain-computer interface (BCI) decoding is currently attracting increasing attention, due to an accumulating documentation of its simplicity, accuracy, robustness and transfer learning capabilities, including the winning score obtained in five recent international predictive modeling BCI data competitions. The Riemannian framework is sharp from a mathematical perspective, yet in practice it is simple, both algorithmically and computationally. This allows the conception of online decoding machines suiting real-world operation in adverse conditions.

Short bio : Marco Congedo received the Ph.D. degree in biological psychology with a minor in statistics from the University of Tennessee, Knoxville, TN, USA, in 2003, and the Habilitation à Diriger des Recherches degree from Grenoble Alpes University, Grenoble, France, in 2013. From 2003 to 2006, he was a Postdoctoral Fellow at the French National Institute for Research in Informatics and Control and at France Telecom R&D, France. Since 2007, he has been a Research Scientist at the “Centre National de la Recherche Scientifique”, GIPSA Laboratory, Department of Images and Signal, University of Grenoble Alpes and Grenoble Institute of Technology, Grenoble. He is interested in signal processing and applied mathematics for the analysis and classification of human electroencephalography, with applications in brain-computer interface and neurofeedback. He has authored and coauthored more than 100 scientific publications.