



DISCOVERED THE SECRET RECIPE OF SOCCER: THE TEAM BRAIN
the study by Prof. Massimo Marchiori turns upside down the traditional beliefs of the game of soccer

Soccer is one of the most successful sports of our times. One reason making this game so fascinating is its level of unpredictability: each game can never be given for granted, and surprising results can occur: it is still a mystery what the secret recipe is that makes a team to win or lose a game.

Despite all the efforts so far produced to unravel the secrets of soccer, the classic statistical approaches, like ball possession, shoots on target, number of passes and so on, did not work (an extreme example has been the victory of the England Premier League by Leicester City Football Club, a team that was constantly beaten at statistical level, yet ending up winning the games).

Massimo Marchiori, professor at the Math Department of the University of Padua, presented at the world congress on Cyber Science (IEEE Cyber Science and Technology Congress) the new study “*The Team Brain: Soccer Analysis and Battles of Mind*”, that won the award as best scientific result.

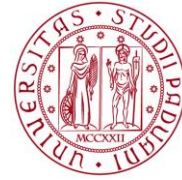
In this study soccer teams are analysed using a new model, changing perspective: each team is seen in symbiosis with the soccer field, creating a brain structure (the Team Brain), and soccer matches are then turned into “battle of minds”, two thinking brains fighting with each other

«The results show how this new vision is able to start unravelling some of the mysteries of soccer – **prof. Marchiori explains** -. In fact, in this battle of minds the winner is the brain who “thinks” better. Moreover, the Team Brain sees the soccer field in a different way as we humans do: the field is perceived as deformed, stretched two times (the “fatigue” is double when passing the ball along the field length rather than along its width).»

The research shows that the individual role of the single players is completely secondary with respect to the structure of the Team Brain: the individual works well only in a tight symbiosis with the “neural zones” of the field. What matters most is instead creating the brain: the correct balancing in linking together, via ball passing, the various neural zones of the field, thus creating the “fast thinking” that enables a Team Brain to win the match.

The study also produced other surprising implications, contrary to common beliefs so far grown up within soccer.

What are the best strategies to follow regarding zone control of the playfield?



The research shows for instance that the hot zones to control are not what we classically think: wings are not so important, and also midfield is not crucial.

«Instead, it is important the control of the so-called “counter-midfield” (the midfield geometrically reversed) – Marchiori says –; moreover, even more surprisingly, the idea that passing the ball forward is more important is wrong: passing the ball backward is as important as passing the ball forward.».