A grayscale microscopic image of neurons, showing their cell bodies and long, thin processes extending across the field. The neurons are interconnected, creating a complex network. The background is dark, making the light-colored neurons stand out.

Starlab Neuroscience

Tools for Real-World Cognitive Analysis

Stephen Dunne

Director, Neuroscience Research

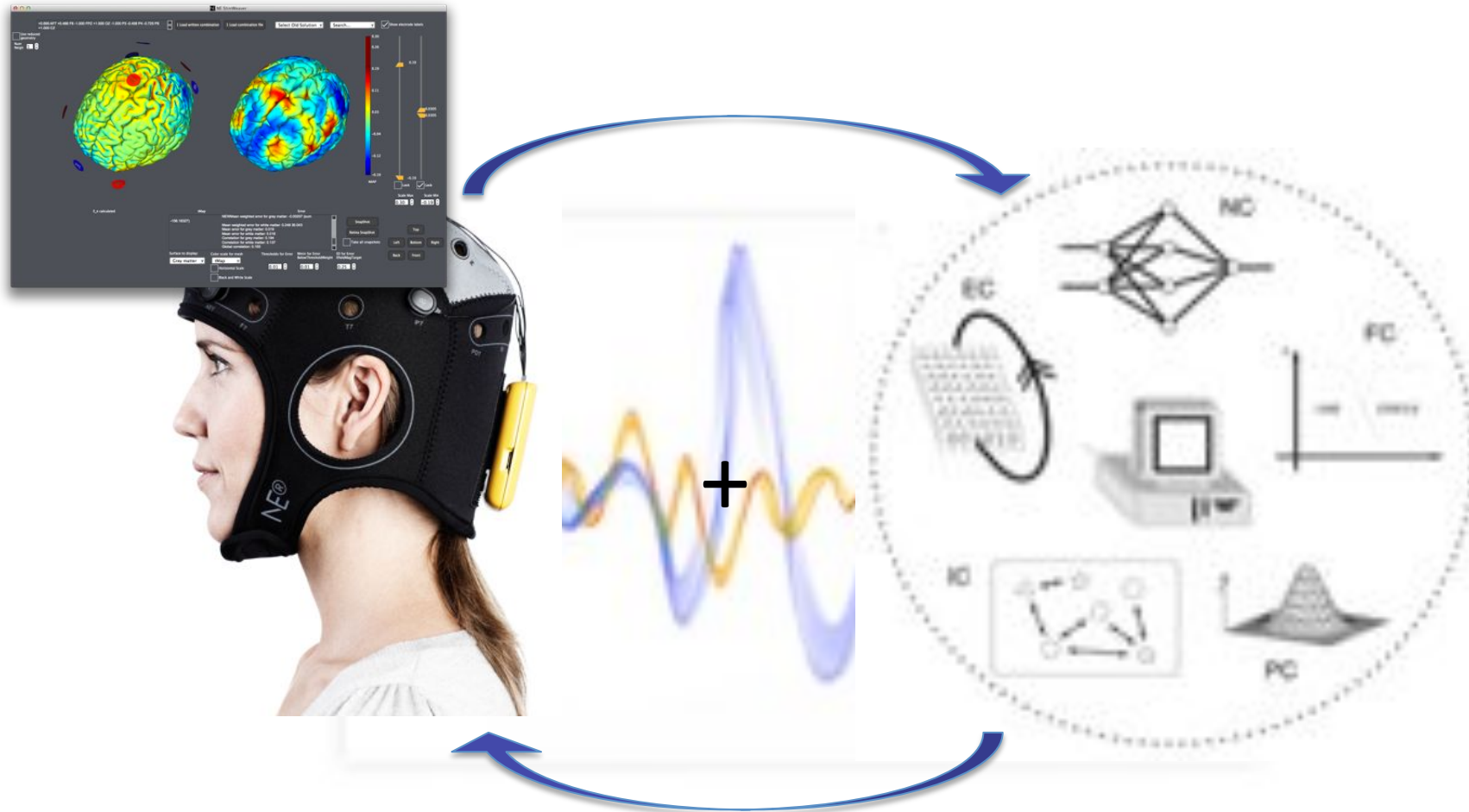
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Starlab Neuroscience – a brief introduction

Advanced data analysis (ML) and custom solutions for electrophysiological data capture, signal processing and neuromodulation.



Wireless multi-channel Closed Loop Systems for Neuroimaging and Neuromodulation



EEG & tCS

Machine Learning

Applications

- Multi-user synchronised cognitive tasks
- User and cognitive state analysis
- Neuromodulation for functional analysis and enhancement (Neurofeedback, NIBS)

Human Computer Confluence <http://hcsquared.eu>

The screenshot displays the HCSquared website interface. At the top left, there is a logo featuring a silhouette of a head with gears inside, and the text 'hc² Human-Computer Confluence'. Below this is a navigation menu with buttons for Home, News, HCC Player Map, HCC Industry, Projects, Exchange, Videos, Consortium, Publications, Contact, Summer School 2012, Summer School 2013, Visions 2012, Visions 2013, and TEDxBarcelona.

The main content area includes a paragraph defining human computer confluence: "Human computer confluence refers to an invisible, implicit, embodied or even implanted interaction between humans and system components. New classes of user interfaces may evolve that make use of several sensors and are able to adapt their physical properties to the current situational context of users. Future of HCC towards Horizon 2020 and HC2 major research challenges: Extending Human Perception, Cognitive Protheses, Empathy and Emotion, Wellbeing and Quality of Life, Socially Inspired Technical Systems and Value Sensitive Design." This text is accompanied by a small gear-and-head icon.


Below the definition are three buttons: "HCC VISIONS BOOK", "HC2 VISIONS II WORKSHOP", and "JOIN OUR COMMUNITY".

On the right side, there is a section titled "From Individual to Collective Attention – Models and Dynamics" by Alois Ferscha, Johannes Kepler University Linz. It includes metadata: "Point of View: academia", "Time Span: mid term", "Impact: ground breaking (10)", and "Opinions: indifferent (0)". The keywords listed are: "attention models, information ecosystems, information diffusion models, public opinion modeling, computational social science, reality mining, big data, pervasive / ubiquitous computing". A video presentation thumbnail shows a man with the caption "Video Presentation".

Below the video section, there are three columns of text:

- VISION**: "In media-rich living spaces (like cities of the future, urban and rural living residences, virtual societies, etc.), where thousands of people are overflooded with signals and messages at all levels of perception and modalities (visual, auditory, tactile, olfactory) while engaging -actively or passively- in the mechanisms of social life and society, the (i) dynamics of individual attention and the (ii) emergence of collective attention appear to be among the most..."
- APPROACH**: "We favour a synthesis driven research approach, combining (i) existing theory and its assessment, with (ii) insights from analysing large data sets collected from operational socio-technical systems (mobile communications networks, TV and broadcast networks, road traffic and transportation networks, social networks..."
- IMPACT**: "More than two decades of pervasive and ubiquitous computing research have brought the vision where the 'computer' is not a single device or a network of..."

At the bottom of the page, there is a large banner for "Human-Computer Confluence Research Challenges" held from May 16-17, 2013, in Barcelona, Spain. The banner features a night cityscape and the text "HC² VISIONS".



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