Worldwide experts in Lausanne on circuits for biomedical

↳ On last October 22nd – 24th, the best worldwide experts have met in Lausanne to discuss the latest novelties in the area of circuits in systems for biomedical applications, included but not limited to brain research, metabolism, and fuel-cells.

Sandro Carrara
AE of transactions on biomedical circuits and systems
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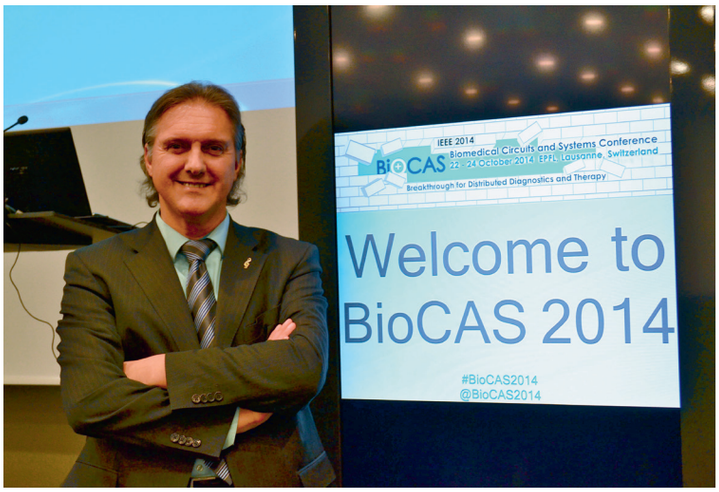
This year, the international IEEE conference on circuits in systems for biomedical applications, BioCAS 2014, has been organized by Sandro Carrara in Lausanne (first photo). The conference venue was the new conference center at EPFL. The theme of this edition was a "Breakthrough for distributed diagnostics and therapy", highlighting the enormous potential that circuits and systems have in developing distributed diagnostics and therapy, the next generation of medical care!

Several historical "fathers" of the field went in Lausanne, like Tony Turner, the father of glucometers invented in 80s, Evgeny Katz, father of biofuel cells, John Rogers, father of the dissolvable electronics, an absolutely recent and revolutionary invention.

This edition was also the occasion to celebrate the 10th anniversary of this advanced conference. For the occasion, a special cake was offered to all the participants at the gala dinner, organized in the spectacular main dinner-room at the Beau-Rivage Hotel in Ouchy. All the past general chairmen were invited in Lausanne (second photo). Past general chairs came from the most prestigious international institutions, like Johns Hopkins University, University of California San Diego, and TU-Delft. This also demonstrates the attention and effort provided worldwide to this field of research, which constantly grows over the past 10 years as further shown by the huge increase in term of participants that came in Lausanne this year. A video has been also realized for this exceptional anniversary. The video explains how the conference was funded and then developed over the years to provide an unique forum for all the experts and to leverage new research in this field of highly impact in the human health and wellbeing (video available at the web site **www.biocas2014.org**).

The meeting was the occasion to discuss the latest news in the area of brain research too. For example, Tim Denison from Medtronic (top leader in the field) discussed the definitely new approach of "creating windows" in the human brain. Nowadays, the burden of neurological disease represents a large unmet need with significant societal and economic impact. While promising in-roads for treatment have been made for some conditions, the application of medical technology to address the broader space of neurological disorders is often limited by the lack of understanding of the natural pathophysiology, and, in particular, the response of a diseased neural circuit to existing and potential treatments. At the conference, he kept scientists and technologists discussing on how to address the issue by creating translational research tools for neuroscientists. The hope here is creating a joint effort in working with clinicians, scientists and engineers that can then create "windows into the brain" by inserting fixed implants in the human brain meanwhile keeping outside the hardware/software systems required to measure, control and stimulate. Medtronic is working hard to help in making these systems practical, taking into account the balance between the risks and benefits of the system from the patient's perspective.

More than that, the conference in Lausanne has been a great occasion to bring several scientists and researchers from all the top-best industries and academics in order to develop fruitful discussions and contacts to further foster the research in the area of electronic circuits for biomedical applications, a greatly expanding area that will provide all of us, in the next ten years from now, new personal tools to monitor and control our health even remotely. Ξ



Sandro Carrara welcomes the attendees at BioCAS 2014 © DR

All chairmen at Beau-Rivage: Andrew Mason (Michigan State University), Lian Yong (Singapore University), Sandro Carrara (EPFL), Mohamad Sawan (Ecole Polytechique de Moreal), Ralph Etienne-Cummings (Johns Hopkins), Wouter Serdijn (TU-Delft), Gert Cauwenberghs (University of California, San Diego), Wai-Chi Fang (Chiao Tung University – Taiwan) © DR