



AVI 2016

Proceedings of the 2016 International Working Conference on Advanced Visual Interfaces

June 7-10, 2016 - Bari, Italy

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Program Chairs: Paolo Buono and Maristella Matera

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WELCOME

It is my great pleasure to welcome you to ACM AVI 2016, the 13th edition of the Conference on Advanced Visual Interfaces. After 22 years, AVI is held again in Bari at the Hotel Villa Romanazzi Carducci, organized under the patronage of the University of Bari Aldo Moro and in cooperation with ACM SIGs and EUSSET.

This biannual appointment started in 1992 in Rome when, with Tiziana Catarci and Stefano Levialdi of Sapienza University of Rome, we conceived and organized the workshop on "Advanced Visual Interfaces", the first international event on Human-Computer Interaction (HCI) issues promoted in Italy by ICT scientists. Since then, the AVI conferences are held every two years and have become well appreciated by the international community, attracting experts with a broad range of backgrounds, coming from all over the world and sharing a common interest on HCI, with the aim of making technology effective and useful for all people in their daily life. Because of advanced technology and new possibilities for user interaction, AVI has broadened the topics it covers, still keeping its main focus on the conception, design, implementation and evaluation of novel visual interfaces.

While rooted in Italy, AVI is a true international conference with respect to nationality of participants, authors of papers, and program committee members. The mixture of carefully selected research contributions paired with cordial Italian hospitality creates a unique conference atmosphere, which has made AVI an internationally recognized brand. The hotel Villa Romanazzi Carducci, which hosts AVI 2016, provides the right context for welcoming the AVI participants, thanks to its liberty-period villa immersed in a beautiful park with a large variety of trees.

I would like to dedicate AVI 2016 to the memory of Stefano Levialdi, who passed away in July 2015. Stefano was a pioneer of Computer Science in Italy. He was fascinated by the possibility that machines could recognize, understand, and reason. He worked for many years in pattern recognition, on parallel algorithms for image processing and languages for parallel computers. He created the Italian Chapter of IAPR (International Association for Pattern Recognition). He was one of the four researchers that in 1984 started the International Workshop on Visual Languages, sponsored by IEEE, which is still alive as the annual Symposium on Visual Languages and Human-Centric Computing. Stefano loved his work and dedicated plenty of energy to it. He had a very positive attitude and was a remarkably optimistic person. Before being a colleague, he was a friend of his collaborators. He enjoyed working with many people, and he published papers with more than 150 different international co-authors. Several of us had the pleasure to work with Stefano. I was very lucky to have him as a caring mentor and a great friend. He gave to all of us just as many important contributions to the literature as he did beautiful memories.

With this, welcome you all to AVI 2016. We have worked hard to make this conference as pleasurable for you as possible, and we hope you will truly enjoy it.

Maria Francesca Costabile
AVI 2016 General Chair

FOREWORD

The 13th edition of the Conference on Advanced Visual Interfaces (Bari, June 7-10 2016) attracted a relevant collection of submissions on different topics, with a main focus on Information Visualization and design and evaluation of advanced user interfaces. The review process resulted into a strong scientific program that well represents current research and developments in the field. World leading researchers, from 22 different countries and 4 continents (Europe, America, Asia, and Australia) will present their work in 27 long papers, 17 short papers, 30 posters, 6 hands-on demos, and 5 workshops.

Paper selection involved a highly qualified group of researchers. A rigorous peer-reviewing process was carried out, with an acceptance rate of 28% for long papers (96 submissions). Each paper was reviewed by at least three members of the Program Committee, one of them being an "Associate Chair" coordinating the review process of that specific paper. The selected long and short papers compose an articulated scientific program that addresses some of the most interesting issues (either "classic" or novel) in the HCI field. The various sessions explore research questions and solutions in several domains, and cover a wide range of topics. In addition, interactive posters and demos, describing promising work in progress and late-breaking ideas, will certainly stimulate interesting discussions and hands-on experience with innovative solutions.

We are especially honored to welcome our invited speakers. Patrick Baudisch (Hasso Plattner Institute, Potsdam University, Germany), Nadia Bianchi Berthouze (Interaction Centre, University College London – UCL, UK), and Daniel M. Russell (Google, USA).

Patrick Baudisch's speech focuses on the challenges that HCI researchers have to face for addressing the massive change that 3D printing and personal fabrication are bringing to interactive computing.

Nadia Bianchi Bertouze discusses the opportunities that the affective body offers to technology designers; by illustrating a case of physical rehabilitation, she discusses how its use could lead to interesting new solutions and effective therapies.

By reporting on a study conducted with a group of Google analysts, Daniel M. Russel discusses the reasons why Information Visualization tools are not used as much as one might expect across the analytic landscape.

The program is further enriched by 5 workshops that provide a forum to discuss research questions and challenges. The titles of the workshops are: "Advanced Visual Interfaces for Cultural Heritage (AVI-CH 16)"; "Road Mapping Infrastructures for Advanced Visual Interface Infrastructures Supporting Big Data Applications in Virtual Research Environments"; "HCI and the Educational Technology Revolution", "Smart Ecosystems cReation by Visual dEsign (SERVE)"; "Valuable visualization of healthcare information: from the quantified self data to conversations". This volume also includes one paper for each workshop, which briefly describes topics, objective and the abstract of the works that will be discussed at the workshop.

Also on behalf of the AVI Steering Committee, we would like to express our strong gratitude to all the people whose passionate and strenuous work ensured the quality of the AVI 2016 program: the Associate Chairs and the Program Committee members; the Workshop Chairs Catherine Plaisant and Massimo Zancanaro; the Demo and Poster Chairs Barbara Rita Barricelli and Antonio Piccinno; the Publicity chair and Webmaster Giuseppe Desolda. The success of AVI 2016 is the results of the efforts by all these researchers who offered a valuable service to this scientific community.

Last, but not least, we would like to thank all the authors who, by presenting their research at the conference, enthusiastically share their results to the AVI community.

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