Message from the General Chair

It is with great pleasure that we are once again coming together in this fantastic conference, **WCCA – World Congress on Communication and Arts** that is in its IX edition and that once again is organized by **COPEC – Science and Education Research Council.** We are also thrilled that our hosts for 2016, **UMinho** – **University of Minho** and **CCG – Computer Graphics Center** are in the beautiful city of Guimarães, a cultural hub in Portugal with some of the finest museums in the country, and home one of the most important universities fostering the work of artists and scholars.

The symbiotic relationship between communication and art can be felt and seen not only by the written word as the image speak in several languages, which is in mind and what goes in the world. It is interesting seeing concrete poetry that by it featured already in 1956 this dynamic between the word picture and sound. In essence is the geometrization and language display: there is an integration of sound, image and words, plus a strong connection with the music, the visual arts and design.

The disclosure of this peculiar art featured various media and technical resources, including books, magazines, newspapers, posters, videotext, holography and, nowadays, the Internet. It is the technology used to beautify life making art and communication accessible to everyone. It is technology, design and functionality.

WCCA'2016 is a very exciting opportunity for members to hear the latest on artistic and communication production and to see all the latest publications and art materials, as well as network with a broad group of academics, professionals and independents from all over the world.

This edition theme **"Keeping the Global Society Creative and Freethinking: new Challenges to ICT on Communication and Arts"** seeks to explore the complex relationships between the digital world and the creative process, the nature of creativity and its impact on cities or even nations, and what goes into making a city/country "creative".

The conference aims to provide a discussion forum with the real presence of people who have relevance not for what he has but for what they are and their commitment to the world of art and communication and working to produce art and communication with real objectives and goals.

Once again, we are very pleased to organize this conference, in Guimarães, Portugal, a city full of history and culture, of considerable significance with an exceptionally well-preserved town illustrating the evolution of particular building types from the medieval settlement to the present-day and showing particularly buildings from the 15th to 19th centuries.

The **WCCA'2016 – IX World Congress on Communication and Arts** is organized by **COPEC – Science and Education Research Council** and promoted by **WCCA – World Council on Communication and Arts** in Technical Cooperation (in alphabetical order): AAMP (Fishing Museum Friends Society), ABENC (Brazilian Society of Civil Engineers), ABENGE (Brazilian Society for Engineering Education), AENUI (Asociación de Enseñantes Universitarios de la Informática), ASEE (American Society for Engineering Education), ASIBEI (Ibero-American Association of Engineering Education Institutions), GCMM (Global Congress on Manufacturing and Management), IEEE-Ed.Soc. (Education Society of the Institute of Electrical and Electronics Engineers), IFEES (International Federation of Engineering Education Societies), IGIP (Internationale Gesellschaft für Ingenieurpädagogik), INTERTECH (International Council for Engineering and Technology Education), ISTEC (Ibero-American Science & Technology Education Consortium), OERN (Institute of Engineers of Portugal – North Region), Porto Gente (PortFolk), RBE (Brazilian Network of Engineering), RCI (Réseau Carthagène d'Ingénierie), SBA (Brazilian Automation Society), SEFI (Société Européenne pour la Formation des Ingénieurs), SHERO (Safety, Health and Environment Research Organization), SPEE (Portuguese Society for Engineering Education), SPEED (Student Platform for Engineering Education Development) and WCSEIT (World Council on Systems Engineering and Information Technology).

We have to thank our sponsors FAPESP (State of São Paulo Research Foundation), CNPq (National Council for Scientific and Technological Development) and CAPES (Coordination for Improvement of Personnel of Superior Level).

We want to thank in special Prof. Dr. Luis Amaral and Prof. Dr. Rosa Vasconcelos, Local Chairs of **WCCA'2016** for their probity and full commitment to the accomplishment of this congress that is certainly another success for the academic and art world.

Our thanks to all authors and participants of **WCCA'2016** for their collaboration and presence to make of this a social and educational event of importance for the international academic community of communication and arts.

Thank you indeed for your participation!

Prof. Dr. Claudio da Rocha Brito
GENERAL CHAIR
President of COPEC

Message from the Technical Program Chair

I am once again very happy to be the technical program chair of another edition of WCCA – World Congress of Communication and Arts and I might start thanking all the authors for their collaboration, to the reviewers for their time and efforts, in special to the coordinators and committees members of WCCA'2016, whose endeavors resulted in a successful event and to the participants for their presence and insightful presentations.

It is always great to work along the process of reviewing papers once it shows the great variety of papers innovative and up to date works in the fields of art and communication.

The theme of the congress has evoked very interesting papers dealing with the world of technology where art is visible in many ways and real time communication give us the feeling of capability and at the same time the idea of instant need in life and that we have to start caring about the society immersed in this virtual world of words and images that cross the world. No doubt it is a very democratic midst that gives people opportunities to be and do in virtual world where discussions take place without the censorship of ideals. However it is a challenging life style full of changes and challenges.

Once again our thanks to authors, reviewers, participants and principally to all the coordinators from UMinho – University of Minho and CCG – Computer Graphics Center for the great job in the accomplishment of WCCA'2016.

We are sure that all will enjoy the scientific and pleasant experience!

Prof. Dr. Melany M. Ciampi
TECHNICAL PROGRAM CHAIR
President of WCCA