From the ICCE 2014 Conference Chair

It is truly an honor to chair the IEEE International Conference on Consumer Electronics (ICCE) 2014, the annual flagship event of the IEEE Consumer Electronics (CE) Society. Every year, I look forward to the reunion in Las Vegas, Nevada—the event that satisfies all of my professional interests. It covers such a wide range of topics that I can attend paper and poster presentations not only in my current professional area—three-dimensional (3-D) video technology—but also in fields in which I've worked previously, including audio and image processing and some aspects of wireless and orthogonal frequency-division multiplexing. I also like to drop into other sessions to follow the major trends and learn about emerging technologies, e.g., health-care technology; perhaps I spot an opportunity to apply a solution from this field to my current work or will work in this field at some stage in the future. In the social breaks, I value the opportunity to ask domain experts for their opinions on current topics.

I am constantly inspired by the pace of innovation in CE, which is an industry focused on improving the everyday lives of people through such diverse applications as medical devices that communicate wirelessly with smartphones to manage glucose levels in diabetics, autostereoscopic glasses-free 3-D TVs for hassle-free immersive viewing, gesture-recognition interfaces for gaming,

and cars that warn their drivers against potential collisions.

Not only do devices seem to be smaller and more feature laden, but the breadth and depth of expertise required in their development have increased too. Original equipment manufacturers need to understand the choices and details of components to integrate into their products, whether sourcing light-steering screens for autostereoscopic 3-D tablets or the latest low-power wireless transceivers for intercar communications systems. At the same time, the rapid appearance of competitors' products leads to downward pressure on prices, which consumers have also come to expect. R&D teams are finding that the expertise they develop this year has quickly become obsolete and needs to be refreshed with new skills. What are the keys to surviving and prospering in such an environment?

SURVIVAL OF THE FITTEST

For companies, it is now more important than ever to keep abreast of the latest developments not only in the current field of activity but also in peripheral areas, as these could lead to the feature that helps them—or their competitors—to stand apart from similar products and gain market share. When an innovation takes off, a team needs to have the multi-disciplinary background and awareness to recognize this and the adaptability to move fast and reinvent itself; in the CE industry, a delay of a few months in launching a product can be the difference between success and failure.

For individuals, as with companies, it is a fundamental principle of evolution that those who adapt are those who survive. It is no longer realistic to expect a job for life in the same R&D department: we need to constantly learn new skills applicable to the changing needs of the market. This has certainly been the case in my 15-year career so far. After my first job in Cambridge (United Kingdom), where I developed audio digital signal processing algorithms for mobile phones, I moved to digital TV receiver design at Imagination Technologies, then to leading image processing and computer vision projects, and finally to 3-D video technology as chief executive officer of emotion3D, which serves the film and CE industries. Where next, I wonder?

Darwin's less-famous, second principle of evolution is the importance of cooperation and collaboration: sharing information and helping others makes the community stronger as a whole. The interchange, discussion, and challenging of ideas are some of the benefits of networking. A pleasant byproduct of the process is the list of contacts to which we can refer when looking for partners for joint development projects, industry collaborators on common standards, customers or suppliers, sparring partners, additional staff to join our team, or a new position for ourselves.

REFLECTIONS AS OUTGOING TECHNICAL PROGRAM CHAIR OF ICCE 2013

The 12 months of preparation for ICCE 2013 went quickly. There was a steady

momentum of activity throughout the year, apart from a predictable peak during the paper-review phase. The first task was to define a conference theme with the help of the Executive Committee. Basing the decision on the current trends in CE research, the choice of human–device interaction turned out to resonate well with the concurrent Consumer Electronics Show (CES), where this was one of the hot topics. Upstairs, at ICCE, delegates were given a glimpse of the future via enabling technologies and prototypes, some of which will no doubt appear at CES in a few years' time when they have reached maturity.

The analysis of submitted papers from previous ICCEs within the EDAS paper-submission system helped to identify the evolving popularity (or not) of topics, and this insight shaped the choice of topics in the "Call for Papers." For example, image/video processing was by far the most popular track, so we divided this into three subtracks covering pixel-level processing such as image enhancement, coding/decoding, and computer vision tasks such as recognition and detection.

The next step was to form the Technical Program Committee (TPC), which was comprised of a team of 30 track chairs and, initially, 120 volunteer reviewers, joined later by 30 external reviewers invited by the TPC to cover specialist topics. After the paper submission deadline, these track chairs heroically managed the systematic review of nearly 600 papers such that each paper received a minimum of three reviews. I was impressed by the chairs' dedication in reading every paper in their tracks and the reviewers' valuable (sometimes contradictory) insights.

The final part of the review process was to construct well-balanced sessions, which for the most part was done by the track chairs by combining definitely accepted papers with those that received good reviews and matched the topic of the sessions, while other papers were moved elsewhere, including to poster sessions. I stepped in at the end of this process to allocate suitable positions for the remaining good papers before constructing the session plan. As expected, there were a sufficient number of image/video-processing sessions to fill one conference room for all four days of the conference, with a full day of 3-D in another. A track of wireless technologies occupied one room for two days, while talks on an increasingly popular topic—CE in medical and health care—filled a full day. The conference theme was well represented in the keynotes, the tutorials, and a dedicated poster session, interspersed with paper presentation sessions titled Touch, Interaction, Gesture, Social, and Haptics. The eight excellent tutorials organized by Michael Zeifman covered not only the conference theme but also several contemporary topics such as white space.

Reinhard Moeller (general chair) calmly guided me through the different phases during the year, while the Executive Committee contributed new ideas and acted as a sounding board for discussing proposals—particularly helpful as several longer-serving members knew what was tried and worked (or not) in previous years. Our conference coordinator, Charlotte Kobert, ensured that everything ran smoothly on the logistical level and acted as a nexus of communication between all involved. It was a pleasure working with the whole team over the course of the year.

A personal high point during ICCE 2013 was meeting the prestigious keynote speakers and Gary Shapiro, leader of the Consumer Electronics Association (which organizes CES). I was impressed that these high-profile people were friendly and open to discussion, and ICCE provided me with a unique opportunity in this respect. One of Gary's colleagues gave me a signed copy of his new book *Ninja Innovation*, which I enjoyed reading on the way home. It still lies prominently on my coffee table as a memento of a stimulating and inspiring few days.

—Tom Wilson
ICCE 2013 Technical Program Chair
ICCE 2014 General Chair

ICCE–Las Vegas: A Perspective on the Future of Consumer Electronics

For the last 15 years that I have been attending the IEEE International Conference on Consumer Electronics–Las Vegas (ICCE–Las Vegas), I have seen it grow from a static conference with an emphasis on educational publishing, toward an active growth conference with a heady mix of industrial presentations and perspectives from industry consultants. The conference organizers have added sessions for burgeoning doctoral candidates; the tutorial topics include writing a focused thesis as well as creating papers that have a higher success rate to be selected for publication. In an attempt to nurture young developers in the conference through social networking, our IEEE