

repair manuals, manuals to create things, manuals to destroy things, how-to guides, work instructions, or any other type of manual that contains step-by-step instructions. oManual is also for developers who want a flexible format that allows them to republish content in new and exciting ways.

### WHAT EXACTLY IS A MANUAL?

*Manual* is an overloaded word, and most dictionaries have outdated definitions referring to instruction books. Here is our definition: a manual is a document that teaches you how to do something. To pick a few examples, we think oManual is a good fit for reference manuals, instruction manuals, user manuals, owner's manuals, how-to manuals, survival guides, and service manuals—but that's just a start.

### WHY IS oMANUAL BOTH A FILE FORMAT AND AN API SPECIFICATION?

Traditional documentation—PDFs, Microsoft Word documents, and even complex files like DITA—lives on a single computer. Establishing a “single source of truth” for these documents requires complex document-management systems. Accessing these (often very large) documents from a mobile device

can be challenging because it requires downloading the entire file up front.

Mobile applications usually download information as they need it, from an on-demand API. oManual bridges these two worlds by providing a common data format and allowing the information to be transmitted via legacy offline files or made available as a Web service. An example workflow would be to take XML DITA service manuals, convert them to oManual with an XSLT transform, and load them onto a JSON server for use by mobile applications.

### IS oMANUAL COMPATIBLE WITH DITA?

oManual is not a subset of DITA [3], but it would be straightforward to convert from oManual to DITA or from DITA to oManual. We are looking for volunteers to help us write some conversion utilities. One note of caution: “round-tripping” content from DITA to oManual and back again is not recommended, because oManual does not fully support all of DITA. This simplicity of oManual is a feature, not a bug.

### WHAT SOFTWARE SUPPORTS oMANUAL?

As of right now, Dozuki [4] is the only software platform that can read and

write oManual packages. We are working with a number of companies to get this standard implemented as part of their software platforms.

### CAN I HELP?

Absolutely. We will be expanding the standard as needed. Our driving principles are as follows.

- ▼ The format should be as simple as possible and no simpler.
- ▼ No manual stands alone. oManual should enable prerequisite chaining and semantic linking, referencing external documents as much as possible.
- ▼ Manuals are not simply text. They are dynamic documents that encapsulate images, videos, and other technical details.

### REFERENCES

- [1] O'Reilly Media Web site. [Online]. Available: <http://oreilly.com>
- [2] iFixit Web site. [Online]. Available: <https://www.ifixit.com/>
- [3] Wikipedia. (2014, Apr.). Darwin Information Typing Architecture. [Online]. Available: [http://en.wikipedia.org/wiki/Darwin\\_Information\\_Typing\\_Architecture](http://en.wikipedia.org/wiki/Darwin_Information_Typing_Architecture)
- [4] Dozuki Web site. [Online]. Available: <http://www.dozuki.com/>

—Mark Schaffer

iFixit Green Chief

IEEE 1874 Working Group Vice Chair

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## Behind the Scenes at ICCE 2014

Every year, the faithful of the consumer electronics (CE) industry gather in Las Vegas for the International Consumer Electronics Show (CES). Another smaller group of industry and academic researchers come together in the days following CES to attend the IEEE International Conference on Consumer Electronics (ICCE),

where the research underlying future and emerging technologies is presented for peer feedback and consideration.

If you are active in CE research, you have likely attended ICCE at some point in your career, but in this article, I don't want to focus on the conference itself—we have covered it in various ways in past issues of *IEEE Consumer Electronics Magazine* and the CE Society newsletter. In this article, I would like to highlight the people and organizational

meetings that support and enable ICCE and the CE Society—these activities are ongoing every year against the busy background of CES and ICCE. Based on a set of pictures I took while at ICCE 2014, here is the story in pictures of the people and meetings/events that inform and guide your Society.

These volunteers serve you and your Society, working in the background to develop new member services and manage our existing portfolio of

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conferences and international events. Their roles span membership development, managing Society publications and conferences, support of local Chapters, liaising with other IEEE Societies and councils with common interests, the development of new technical activities and standards, and representing the broad interests of the Society membership both within and external to the IEEE.

My photos cover two main events that occurred at ICCE 2014. The first of these is the Society Board meeting, which typically happens the day before the ICCE conference. The second is the combined meeting/dinner for the ICCE Executive and Technical Program Committee (TPC) members; it is usually referred to as the ExCom dinner, but TPC members are also welcome. (In fact, anyone who would like to serve on next year's conference committee is welcome.)

Before we dig into those two major events, let me first introduce our activity at the CES trade show that was originally established by serial volunteer and award recipient (see the section "The Board of Governors Meeting and Presidential Awards") Stu Lipoff. I'm not sure when Stu originally started this meeting, but I have participated in it for the last three to four years. This is our annual ICCE preconference press briefing. If you are attending the trade show, look out for this 1-h event, which is usually held in the North Hall.

### PRESENTING ICCE 2014 AT CES

Every year, members of our board participate in a public relations (PR) seminar we run during the main CES trade show (Figure 1). This typically takes place the same day as our board meeting and has been coordinated every year by Stu Lipoff. Thanks, Stu!

This is a very popular session, and, as can be seen in Figure 2, we typically have a packed room, with people standing along the back and sides of the auditorium. The format is quite straightforward—a panel of CE Society industry experts talk in turn about their views on the emerging/new CE technologies for the coming year.



FIGURE 1. Stu Lipoff (left) presides over the annual CE Society PR seminar at CES.



FIGURE 2. A step-back view of the PR panel with the entire audience in view. You can see that the venue is really packed.

I have taken part in this session for the last few years, and it is quite an experience. Each of the panel members takes a couple of topics in which they have a strong background and discusses the state of the art and new trends and emerging, potentially disruptive technologies. We then tie this in to some of the sessions and keynotes that will be part of the ICCE.

My field is normally digital imaging and camera technologies, but I have also commented on the Internet of Things, cloud computing, and home networking over the last few years. If you are a CE Society member and industry expert and you'd like to help out next year, I suggest that you contact Stu ([s.lipoff@ieee.org](mailto:s.lipoff@ieee.org)) and

indicate your interest and willingness to help out.

Thanks to the Consumer Electronics Association (CEA) for facilitating this session every year and to the many journalists and CES delegates who have attended—we do appreciate your interest in the CE Society and our annual ICCE event.

### THE BOARD OF GOVERNORS MEETING AND PRESIDENTIAL AWARDS

If you have ever wondered what a Board of Governors (BoG) meeting looks like, well here it is, shown in Figure 3. Not hugely inspiring—I'll bet you didn't realize how big the Society Board is, but there are a lot of things



FIGURE 3. The 2014 CE Society BoG meeting.



**FIGURE 4.** Stu Lipoff (left) receives a plaque from CE Society President Stefan Mozar in honor of his service to the Society at the 2014 Presidential Awards.



**FIGURE 6.** The author, Peter Corcoran, *IEEE Consumer Electronics Magazine* editor-in-chief, with CE Society President Mozar.



**FIGURE 8.** Membership Development Chair Bill Orner (right), a long-time CE Society volunteer, with President Mozar.



**FIGURE 5.** Charlotte Kobert (left) was recognized for her efforts in organizing Society conferences.



**FIGURE 7.** Robin Bradbeer (left) receives a personalized CE Society pin commemorating her many contributions to the CE Society.



**FIGURE 9.** Past President Stephen Dukes (left) is the current VP of conferences.

going on in a typical IEEE Society. Everyone has a particular role and set of responsibilities. If you want more details, you can find a list of the board members and officers in every issue of *IEEE Consumer Electronics Magazine*. This may also help you find the relevant Society officer if you have some ideas or suggestions you want to explore. From time to time, we also feature articles from individual board members, typically aligned with their executive roles on the board.

Well, part of the fun of being the president of an IEEE Society is that you get to acknowledge the contributions of the many volunteers who participate in day-to-day running and operations. If you have ever wondered how the CE Society manages to provide access to so many conferences and technical publications, the answer is to be found in its volunteers.

Next, we'll take a look at CE Society President Stefan Mozar presenting awards to some of the senior volunteers who help our Society. This private ceremony happened earlier this year, the day before ICCE 2014 commenced. Awards are presented every year at our annual face-to-face meeting of the Society BoG.

To begin, our vice president (VP) of publications, Stu Lipoff was presented with the world's tiniest commemorative plaque (Figure 4). Seriously though, Stu is one of the CE Society's longest-serving members, and he makes enormous contributions to the Society. He is also the driving force behind *CE-Soc World*—a monthly HTML e-bulletin that goes out by e-mail to our members, keeping them updated with the latest events and happenings in which the Society is involved.

Next up was Charlotte Kobert, who is our chief administrator (Figure 5). In fact, she is the one who handles and coordinates most of the organizational effort that brings you five to six major CE conferences and events worldwide each year. Every conference chair and his or her organizing committee can tell you how important Charlotte was in pulling his or her conference together.

Shown in Figure 6, the next guy to shake President Mozar's hand was a pretty lazy individual who doesn't contribute much to the Society, but he wields control of the main CE Society media publication—*IEEE Consumer Electronics Magazine*—so President Mozar was

coerced into giving him a handshake, although the supply of tiny commemorative plaques had run out.

Robin Bradbeer is another senior volunteer who has served in many different roles (Figure 7). She is a resident of Hong Kong and has been responsible for International Affairs and was CE Society Chapter chair. Robin has been featured before in *IEEE Consumer Electronics Magazine*, and when I was editor of the CE Society newsletter, we republished an interview she conducted with Steve Wozniak back in the original Apple garage headquarters.

Robin currently serves on the CE Society BoG and has contributed to membership and Chapter development as well as helping with many of our conferences, particularly in Asia. She was presented with a microplaque, which is just barely visible in Figure 7. All this miniaturization—where will it end?

Bill Orner, shown in Figure 8, is our membership development chair and has also served multiple terms on the Society BoG. He is based in the Silicon Valley area and has worked with a range of different CE companies over the years. He's currently working with GoPro, so



we hope to have dynamic 360° video coverage of next year's awards ceremonies. Bill got a nanoplaque, but it is too small to see in the picture.

Stephen Dukes is past president and also a senior editor contributing to the magazine (Figure 9). He is presently serving as vice president of conferences and has quite a mandate in tracking and managing all the international conferences in which the CE Society participates. Stephen has played a very central role in recent years in shaping a new strategic plan for the Society and promoting and championing its activities across the IEEE. As president, he led the Society to become more engaged with its Asian membership and encouraged more Asian participation at Board level.



**FIGURE 10.** The CE Society welcomes all members to volunteer. Have you considered running in one of the Society elections?

### MEMBER PARTICIPATION IS KEY

In the previous section, we met some of the elected members of the BoG. Yes, believe it or not, you, our Society members and readers, did elect them!

“Hey,” you say, in exasperation, “I never voted for them.” In fact, a large majority of our Society membership doesn't vote, but there are up to five new members elected every year to the BoG in a rotating cycle. If you are a Society member, you should use your vote—you can access all the relevant information about candidates and complete your vote online via your main IEEE account, as long as you remember to log into it from time to time.

Perhaps, more importantly, you might consider putting your name up for election. We are always looking for new volunteers, particularly younger people with new ideas, energy, and enthusiasm (Figure 10). Any senior volunteer will be more than happy to make the relevant introductions and mentor you if you are interested in participating more actively in the running and day-to-day operations of your Society.

### THE ICCE EXCOM DINNER

Now, let's get back to the important stuff! How do things happen within the CE Society? How do people meet, discuss stuff, and then go on to make things happen? Where does that interesting conference program come from, and who



**FIGURE 11.** Attendees at the ExCom dinner sit down to the first important item on the agenda—a few aperitifs!



**FIGURE 12.** ICCE 2014 TP Chair Fernando Pescador (center) receives a spontaneous round of applause for his hard work.



**FIGURE 13.** Your trusty editor shares a moment with Prof. Kehtarnavaz (left) of the University of Texas at Dallas. In the foreground, Robin Bradbeer is engaged in an animated discussion with other attendees.





**FIGURE 14.** Conference Chair Tom Wilson (right) with Charlotte Kobert.



**FIGURE 15.** From Left: Robin Bradbeer (BoG member), Peter Corcoran (*IEEE Consumer Electronics Magazine* editor-in-chief), Bob Frankston (*IEEE Consumer Electronics Magazine* columnist), and Scott Linfoot (BoG member).

solicits those interesting keynote speakers, organizes that awards luncheon, and comes up with those neat ideas for tutorials and workshops?

Well, the answer is anyone who is a Society member and who is willing to spend some time engaging with other members via the conference TPC and conference ExCom.

“So how do I get to engage?” you ask. That all begins with an important event where we break bread and clink glasses together every year (Figure 11). You may hear it announced at ICCE, but if you ask any of the track chairs they’ll let you in on this little secret. Typically, it is held the second night of ICCE, and it is in the buffet of the Las Vegas “hotel formerly known as Hilton.” Any current member of the TPC or ExCom can and will be happy to invite you to attend.

The main function of this dinner is for the TP chair to thank the people who helped put together the current year’s conference. It can be a bit confusing for the technical program chair, who has been used to the conference chair doing most of the talking while he does the real work of bringing together the core conference program. The event is also quite spontaneous, and, as you can see in Figure 12, the 2014 technical program chair, Fernando Pescador, was caught off guard by a spontaneous round of applause. Good job, Fernando!

Of course, this is the best thing about the ExCom dinner—it is very



**FIGURE 16.** Fernando Pescador (left), ICCE 2014 technical program chair, with S.J. Ko, chief organizer of the 2014 International Symposium on Consumer Electronics in Jeju Island, South Korea.



**FIGURE 17.** Thomas Coughlin (center), CES Future Directions liaison and Region 6 director-elect, listens to an intense discussion between Fernando Pescador (right) and a colleague.



**FIGURE 18.** Prof. Aldo Morales (center) from Penn State University and his wife chat with S.J. Ko.

informal. It’s a great venue to gather groups of like-minded people and seed some of the discussions that we’ll have later in the year (Figure 13).

One of the new events at ICCE 2014 was a panel workshop to discuss issues

related to academic publication for Ph.D. students. In this session, professors from the United States, Taiwan, Korea, The Netherlands, and Ireland shared their experiences and those of their students with regard to academic



**FIGURE 19.** Prof. Ezendu Ariwa (left), chair of the U.K. Chapter of the CE Society, talks with Prof. Reinhardt Moller, who is a past chair of ICCE (2013).



**FIGURE 21.** Murlin Marks (left) and Scott Linfoot share an animated discussion.



**FIGURE 20.** The usual suspects: active CE Society volunteers Tom Coughlin, Kevin Ravo, Will Lumpkins, Denis Shapiro, and Carsten Dolar.

publication. The session was well received by an audience of mainly graduate students, and some interesting questions were put to the panel.

Academic publication is a challenging activity for even the best graduate students, and new activities such as this workshop can offer important support to CE Society members. It is especially useful to see that the same problems are experienced by graduate students worldwide. Prof. Nasser Kehtarnavaz was kind enough to participate in this first-time activity at ICCE, and as organizer, I would like to thank him and the others who contributed.

In Figure 14, we see the 2014 conference chair, Tom Wilson, thanking Charlotte Kobert for her help throughout the year. As mentioned previously, Charlotte really does that most important job of holding everything together. And she does it not just for ICCE but for many of the other CE Society conferences and activities as well, helping with the management and coordination of financial and logistical matters. Her role is particularly important in maintaining continuity because

our conference chair changes from year to year. There would be no memory of past decisions or understanding of the context for them if Charlotte was not there to help us.

Of course, the main reason we get involved with the CE Society is to meet with other equally wacky individuals. In Figure 15 is a group that you'll find hard to beat for a high wackiness quotient, and some other moments from this fun event are shown in Figures 16–19.

### SOCIETY VOLUNTEERS AND LIAISONS

Now, let's meet a handful of other CE Society volunteers (Figure 20). Among the ranks of these usual suspects, we find Tom Coughlin, Will Lumpkins, Denis Shapiro, and Carsten Dolar. There are many more volunteers involved in each and every CE Society activity—if you are not already involved and contributing, then you are not getting full value from your CE Society. As with all volunteer efforts, you'll find that the more you get involved, the more you get back both in terms of personal experience and



**FIGURE 22.** Peter Corcoran is the CE Society liaison to the IEEE Biometrics Council.

development and, more significantly, in terms of professional contacts, mentorship, and collegiality.

Murlin Marks is the liaison to the CE Society from the IEEE Product Safety Engineering Society (PSES), and he attends many of our board meetings to provide a contact point between the two Societies (Figure 21). At present, the CE Society and PSES have a number of joint activities and ventures. As part of one of these initiatives, PSES members get a complementary copy of each issue of *IEEE Consumer Electronics Magazine* this year, and we have run a number of articles from PSES members on safety-related topics. I hope to see a more regular PSES section in the magazine in the near future—something akin to the new “Impacts” section we run together with the IEEE Society on Social Implications of Technology.

One additional role I have is as liaison to the IEEE Biometrics Council. In this role, I participate in another BoG with a vote on behalf of the CE Society. I also try to promote the work of the council within the CE Society (Figure 22). This is a good match for me, as regular readers of *IEEE Consumer Electronics Magazine* will know. I have contributed some past articles on biometrics and smartphones [1] and also coauthored an article about the *IEEE Biometrics Compendium* [2], which is a new journal bringing together previously published biometrics



research papers drawn from a wide range of IEEE journals, conferences, and Societies.

We will try to feature the work of other CE Society liaisons in future issues. The IEEE is a big organization, and it takes a lot of volunteer resources

for our Society to keep in touch with and participate in everything that is going on across the IEEE.

#### REFERENCES

[1] P. Corcoran, "Biometrics and consumer electronics: A brave new world or the road to

dystopia?" *IEEE Consumer Electron. Mag.*, vol. 2, no. 2, pp. 22–33, 2013.

[2] P. Corcoran and A. Ross, "Introducing the IEEE Biometrics Compendium: Insight into the current issue," *IEEE Consumer Electron. Mag.*, vol. 3, no. 1, pp. 32–38, 2014.

—Peter Corcoran

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## ISCE 2014, Jeju Island, Korea

The IEEE Consumer Electronics (CE) Society and the Korean Institute of Electronics and Information Engineers (IEIE) coorganized the 18th IEEE International Symposium on Consumer Electronics (ISCE) in Jeju Island, Korea, 22–25 June 2014. Since the Singapore IEEE CE Chapter organized the first event in 1997, the ISCE has continued to grow in size and quality by visiting cities all around the world.

Stefan Mozar, the president of the CE Society, said, "The ISCE is entering a new area, with Korea taking a leadership role in this event with the IEEE CE Society. Such strong collaboration has resulted in an outstanding event being hosted in Korea. It is also the beginning of a long collaboration between the IEIE Korea and the IEEE CE Society."

ISCE 2014 selected 272 papers from 320 submissions. The technical program included 24 regular sessions and ten special sessions in state-of-the-art consumer electronics areas, including image/video processing, computer vision, human–computer interaction, automotive, and commercial appliances, from both academia and industry. Two plenary talks, "Future Outlook of Smart TV and Home Devices" by Dr. Jeonghoon Park from Samsung Electronics and "Internet of Things:



International Advisory Committee members of ISCE 2014 visiting the Manjanggal Lava Tube, which stretches for as far as 7,400 m (8,093 yd).



Dr. Jeong-Hoon Park, vice president of DMC R&D Center in Samsung Electronics, explains the next-generation multimedia technology for enabling future innovative product and services in his plenary speech on 23 June 2014.



Attendees at the banquet of ISCE 2014 enjoy the fusion jazz performance.