

IEEE Life Fellow Doug Zuckerman chairs the [IEEE Future Directions](#)’ flagship [Technology Time Machine conference](#) this year in San Diego, on 20-21 October 2016, hosted by [IEEE Region 6](#). In this Q&A, he provides insights into the conference’s purpose, program and value propositions.



**Question:** Would you explain the TTM conference theme and its relevance and describe the value proposition for attendees?

**Zuckerman:** The theme this year is “Making the Future.” That’s a differentiator. Previous conferences have taken future-oriented approaches. What will the world look like in 2030? That sort of thing. But it’s always a challenge to weave together a cross-domain sense of how today’s research and development and commercial offerings will take us to that future. What can we do today that will help us shape that future? It’s important to broaden everyone’s perspective on

developments in a variety of fields and how those developments may impact someone’s work in a specific domain. That’s both a differentiator as well as a value proposition for attendees.

We think that the value of networking in such an environment is very powerful. Our Future Directions initiatives include [Big Data](#), [Brain](#), [Cybersecurity](#), [Digital Senses](#), [Internet of Things](#), [Rebooting Computing](#) – and each of those topics has inter-relationships with the others. There’s a lot of potential synergy in bringing strategists, researchers and practitioners in those fields together in one place.

**Question:** From a glance at the agenda, it appears that the TTM conference extends well beyond technology – is that a correct perception?

**Zuckerman:** Indeed it is. Not only are we looking across various IEEE initiatives and creating a holistic view of all of the important technologies – not just within IEEE but across the world in general – but we’re also focusing on the social implications of technology. One of our keynote speakers, Sherry Turkle, works as a professor at MIT and serves as director of MIT’s Initiative on Technology and Self. She personifies and exemplifies the inquiry into technology’s social implications. In interviews and in her books she’s constantly questioning – is all this technology really a good thing? Is it dehumanizing us? Are mobile electronics – tweeting, texting – somehow making it more difficult for people to really communicate with each other? Technology is great but perhaps there’s a downside from its impact on humanity that we should anticipate and take into account as we develop it. Turkle will explore that angle in her keynote address and I expect it to emerge as a major theme running throughout the conference. We also have what we call a “technology superstars panel,” so the program will have a compelling mix of highly relevant and thought-provoking content.

**Question:** Who should attend?

**Zuckerman:** We'll have content and value for a gamut of people, from students to researchers to entrepreneurs to long-range strategists in the upper echelons of technology companies. Topics under discussion at TTM 2016 will cover a wide and synergistic range of business, social, economic, political and educational issues. The event is geared towards executives, decision makers, industry leaders, technologists, government officials, scientific innovators, economists, social policy makers and others.

Students should attend because they might need ideas on a focus for their thesis or it could help them decide what field to pursue after graduation. In fact, we'll have a "Lightning Talks" event for young entrepreneurs and professionals to give five-minute insights into their work for students after dinner on the first day.

For researchers, attendance at TTM could help shape their thinking, perhaps lead them to see their own work in a broader context or more long-range. In the technology industry, anyone in mid- to high-level management, particularly people involved with strategic or long-range planning for their companies, would benefit from hearing the conference's thought leaders and, of course, the chatter in the hallways outside the programmed events.

I should emphasize that this event is open to all interested people, whether or not they are IEEE members. Please look over the [conference program](#) and you'll see that this is a unique opportunity to broaden your horizons on the future of technology and its social implications. It's quite easy to [register for the conference](#).

Also, attendees should bring their families. San Diego is a lovely location and that provides an extra incentive to make the journey to attend.

**Question:** What sort of take-aways or post-conference resources will be available?

**Zuckerman:** Typically, TTM conferences yield a summary white paper on the activities and discussions that unfold at the event and those have proven popular. That will be available via [IEEE's Xplore Digital Library](#). Also, we'll be videotaping the event for possible use in creating educational resources and webinars. These resources would prove useful to attendees post-conference and to those who could not attend.

**Question:** Another theme to the TTM conference seems to be diversity, in all its respects – diversity of topics, viewpoints and speakers. Would you elaborate on that angle?

**Zuckerman:** Certainly, and gladly. We've already discussed topical diversity. But we take very seriously the need to present diverse viewpoints and speakers. Demographically, women in engineering have been under-represented. So, in addition to having female keynote speakers, we're holding a first-day panel on "Women in Making the Future," which will feature real superstars of the technology world, including Alicia Abella from AT&T, Kathy Herring Hayashi

from Qualcomm, Tamara Clay from Hyperloop One, Meredith Perry, founder and CEO at uBeam and “Chuck” (Charlene) Walrad, managing director at Davenport Consulting.

Frankly, it doesn't get much better than that at any technology conference. Also, it's important to point to the generational diversity supported by our attention to students and young entrepreneurs, as mentioned earlier.

**Question:** What do you hope to accomplish with TTM 2016? What outcomes would matter to you personally?

**Zuckerman:** We've used a quote from the author Arthur C. Clarke as our motif for the conference: “The only way to discover the limits of the possible is to go beyond them into the impossible.” That's fitting for TTM 2016. The role of the imagination has always been emphasized by great thinkers. Flights of fancy, unfettered by the actual technology challenges involved in realizing a vision, has always been at the heart of technology advances and scientific breakthroughs. To achieve something new, you must imagine it first. Then you work through the practicalities to see if it's possible.

We've conceived and designed TTM 2016 to take attendees out of their own world and give them a glimpse over their own horizons into other domains and ways of seeing the world. Personally, and as chair of this event, my goal is to send attendees home imagining the impossible, and for them to reap the rewards of bold new thinking about their technology pursuits and the social implications and impacts their work may create.

*Doug Zuckerman is an IEEE Life Fellow, past president of the IEEE Communication Society and a past member of the IEEE Board of Directors, with more than 30 years of industry experience in telecommunications starting at Bell Laboratories in 1969.*