

ISPCE 2017

2017 IEEE Symposium on Product Compliance Engineering
Holiday Inn San Jose - Silicon Valley
May 8-10, 2017

PSES Newsletter: Conference Special Issue

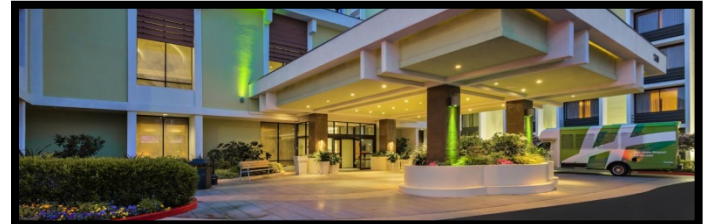
<http://psessymposium.org>

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San José



Holiday Inn San José,
ISPCE 2017 Venue

Reserve your room today:
<http://psessymposium.org>
Deadline to reserve your room is **April 17**

Early registration ends April 1!

See page 12.

Message from the General Chair

Greetings,

This is the fourteenth annual IEEE International Symposium on Product Certification Engineering. We're back to the location where we started in 2004: Silicon Valley. Our Silicon Valley location is central to the technical and entrepreneurial world of new ideas. The Holiday Inn San José is convenient to the San José airport and nearby freeways. The nearby light rail will take you downtown and to other areas of the Valley. With the fantastic California May weather, we can expect a stimulating, rewarding experience.

ISPCE 2017 promises to be a great event, with technical presentations covering the gamut of product safety and regulatory design and engineering. This will be an invaluable conference for engineers, managers and administrators that will include basic and advanced topics. As we continually hear in the news, product safety issues impact established technology as well as the leading edge. Some of the issues are subtle and some are dramatic. Any issue can seriously impact your company's reputation and financial survival. ISPCE2017 is the place to meet and learn from the experts.

I hope to see you and your colleagues at ISPCE2017!



Murlin Marks
PSES Past President
ISPCE2017 Chair

Best Paper Award Nominees

This year's symposium Best Paper finalists have been announced. There are some great papers here:

Generalized formula for the calculation of a probabilistic metric for random hardware failures in redundant subsystems;

Author: **Atsushi Sakurai – FS-Micro Corporation**

Abstract: The introduction of the international standard ISO 26262 "Road vehicles - Functional safety" in 2011 provided a state of the art methodology for achieving functional safety in automotive electrical and/or electronic (E/E) systems. The standard defines the probabilistic metric for random hardware failures (PMHF) as the average probability of a violation of a safety goal associated with a failure over a vehicle lifetime, as well as architecture metrics. Although a PMHF formula is provided, little explanation of the standard exists. In this paper, we propose a method to calculate the PMHF and expand the application to redundant subsystems that are not well described in the standard.

(Continued on page 14)



Don Gies
Member, IEEE
PSES Board of
Governors

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Keynote Speaker



Barry Shoop,
Immediate Past President,
IEEE

Title: Disruptive Innovations

Abstract:

Clayton M. Christensen first coined the term disruptive technology in his 1995 article "Disruptive Technologies: Catching the Wave" in which he described disruptive technology as a new technology that unexpectedly displaces an established technology. Later, in his classic text *The Innovator's Dilemma*, he asks the question "Why do well-managed companies fail? He concludes that they often fail because the very management practices that have allowed them to become industry leaders also make it extremely difficult for them to recognize and develop the disruptive technologies that ultimately capture their markets. Well-managed companies are excellent at developing sustaining technologies, those technologies that improve the performance of their products in ways that satisfy their customers. Disruptive technologies, however, are distinctly different and are typically cheaper, smaller, simpler and frequently more convenient to use. Disruptive technologies fundamentally

change the value proposition in a market according to a distinct pathology. There are numerous disruptive technologies throughout history that have changed the very fabric of society including but not limited to the printing press, electricity, the personal computer, and more recently, the cellular telephone. While a retrospective analysis of a specific technology can identify that technology as disruptive, the desire is to develop both a culture and organizational structure that allow for a continuous survey of the technology horizon to identify and subsequently develop disruptive technologies. In addition to understanding disruptive innovations, we have found that it is equally important to understand how social, cultural, and religious factors impact the acceptance or rejection of technological innovation. To develop this framework we include insights from three classic texts including *The Structure of Scientific Revolutions* by Thomas S. Kuhn, *The Discoverers* by Daniel J. Boorstin, and *The Two Cultures* by C. P. Snow. Iconic examples of the consequences of not understanding disruptive innovations are Blackberry, Nokia, Blockbuster, Borders, Kodak, and others - companies that missed opportunities to leapfrog to the next big thing.



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EMC and Wireless Jim Bacher	Compliance 101 John Allen	HazLoc/ATEX Paul Kelly	Global Regulations & Compliance Management Bansi Patel	Energy Storage & Batteries Jan Swart	Legal Susanne Wende and Ken Ross	General events open to all
Forensics Daren Slee	Environmental and Energy Regulation Rakesh Vazirani	Medical Richard Gardner	Innovation & Emerging Technologies Ted Eckert	Safety Science & HBSE Tom Lanzisero	Meals, breaks	

Monday	Monday Salons A-J	Monday San Jose Ballroom	Monday Salons KL	Monday Salon M	Monday Monterey Room
7:00 AM		Speaker Breakfast Room: Salon K			
7:10 AM					
7:20 AM					
7:30 AM	Continental Breakfast and Networking				
7:40 AM					
7:50 AM					
8:00 AM	Opening Plenary, Exhibits and Networking Keynote 1 Barry Shoop				
8:10 AM					
8:20 AM					
8:30 AM					
8:40 AM					
8:50 AM					
9:00 AM		Transition/Networking			
9:10 AM					
9:20 AM	Transition/Networking				
9:30 AM	Open	Systematic Approach for Restricted Substance Compliance Joe Langton	Consumer Product Safety: Self-certification vs third-party testing and certification Roberta Telles; Marcello Manca	Compliance 101 - Common Requirements for any Product John R. Allen	Safety of Information and Communication Technology Equipment Used in Smart Grid Applications Don Gies
9:40 AM					
9:50 AM					
10:00 AM					
10:10 AM					
10:20 AM		Transition/Networking			
10:30 AM	Transition/Networking				

Monday	Monday Salons A-J	Monday San Jose Ballroom	Monday Salons KL	Monday Salon M	Monday Monterey Room
10:40 AM	Open	Open	Beyond the basics: Save trauma for when it really counts Lars Mellander	When Products Harm – a classic case study in product liability from the Engineer’s viewpoint Gary Tornquist	Grounding/Earth ing Revisited Rich Nute
10:50 AM					
11:00 AM					
11:10 AM					
11:20 AM					
11:30 AM					
11:40 AM	Lunch, Exhibits and Networking				
11:50 AM					
12:00 PM					
12:10 PM					
12:20 PM					
12:30 PM					
12:40 PM					
12:50 PM					
1:00 PM	Open	EU and US State & Federal Regulations Update Pratik Ichhaporia	Compliance Engineering on the context of the Next Industrial Revolution Steli Loznen	Class 2 Circuits Bruce Proper	Why Do GFCIs Keep Tripping? Aziz Inan; Jacob Kirby; Peter Perkins; Matthew Yuen; Henry Benitez
1:10 PM					
1:20 PM					
1:30 PM					
1:40 PM					
1:50 PM					
2:00 PM	Transition/Networking				
2:10 PM	Open	A Global Overview of Product Energy Efficiency Policies Ari Reeves; Jenny Corry Smith	Outsourcing Product Certification Management Paul Milton	CCC factory inspection and new regulations Aiying He; Paul Wang	AC vs DC Dielectric Testing; Allowing AC or DC Testing in 61010- 1 3rd edition Syed Abidi; Nicholas Piotrowski
2:20 PM					
2:30 PM					
2:40 PM					
2:50 PM					
3:00 PM					
3:10 PM	Afternoon Break, Exhibits and Networking				
3:20 PM					
3:30 PM					
3:40 PM					

Monday	Monday Salons A-J	Monday San Jose Ballroom	Monday Salons KL	Monday Salon M	Monday Monterey Room
3:50 PM	Open	Recent Development on USB Type-C External Power Supply and Compliance Consideration Angie Du	Innovative approach to Product Realization Improving Time to Market Roger Martin	Introduction to a new, no cost, Industry Resource for Regulatory - safety and Compliance Information as a service to the electronics industry Kevin Parmenter	Evaluation of Blasting Media Suitability for Removal of Common Electronics Potting Compounds Michael Mehlman
4:00 PM					
4:10 PM					
4:20 PM					
4:30 PM					
4:40 PM	Transition/Networking				
4:50 PM					
5:00 PM	Open	Complying with the Radio Equipment Direct Tom Tidwell	Risk Assessment of Low Voltage products LVD Directive 2014/35/EU, Annex III,2 Lars Mellander	Electrical Product Safety: A Primer Mike Sherman	An integrated approach to plan the design Verification and Validation (V&V) activities for the new product reliability improvement Mohammadsadegh Mobin; Steven Li
5:10 PM					
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5:50 PM	Monday Reception				
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7:20 PM					

Tuesday	Tuesday Salons A-J	Tuesday San Jose Ballroom	Tuesday Salons KL	Tuesday Salon M	Tuesday Monterey Room
7:00 AM		Speaker Breakfast Room: Salon K			
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7:30 AM	Continental Breakfast and Networking				
7:40 AM					
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8:00 AM	Tuesday Plenary, Keynote 2 TBA				
8:10 AM					
8:20 AM					
8:30 AM					
8:40 AM					
8:50 AM					
9:00 AM	Transition/Networking				
9:10 AM	Open	Introduction to Global Hazardous Locations Paul T. Kelly	IoT in Latin America, present and future Elizabeth Perrier	The Use of Experts in Litigation John Loud and Ted Dorenkamp	Introduction to EMC Made Simple-Printed Circuit Board and System Design Mark Montrose
9:20 AM					
9:30 AM					
9:40 AM					
9:50 AM					
10:00 AM	Awards Ceremony, Coffee Break and Networking				
10:10 AM					
10:20 AM					
10:30 AM	Open	Decoding Global HazLoc Markings John N. Chambers	An update on Safety Regulations in Argentina & Brazil and the latest on Reverse Logistics Laws Elizabeth Perrier	CPSC Update Richard Stern and Cheryl Possenti	Introduction to EMC Made Simple-Printed Circuit Board and System Design Mark Montrose
10:40 AM					
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11:20 AM					
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12:00 PM					
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12:30 PM	Lunch, Exhibits and Networking				
12:40 PM					
12:50 PM					
1:00 PM					

Tuesday	Tuesday Salons A-J	Tuesday San Jose Ballroom	Tuesday Salons KL	Tuesday Salon M	Tuesday Monterey Room
1:10 PM	Open	Understanding Global HazLoc Market Access Paul T. Kelly	Global Market Access & Regulations, Compliance Management: Global regulations and certification management. Silvia L. Diaz Monnier; Andrea Méndez; Juan Cuccorese	Product Compliance and E-Commerce in the EU Susanne Wende	Introduction to EMC Made Simple-Printed Circuit Board and System Design Mark Montrose
1:20 PM					
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2:10 PM	Transition/Networking				
2:20 PM	Open	Applying Global ISO-based Quality Systems for HazLoc Equipment Production John N. Chambers	China Wireless Certifications Paul Wang	The Use of Social Media to Meet a Manufacturer's Pre-Sale and Post- Sale Duties Kenneth Ross	Introduction to EMC Made Simple-Printed Circuit Board and System Design Mark Montrose
2:30 PM					
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3:00 PM					
3:10 PM					
3:20 PM	Afternoon Social/Exhibits				
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3:40 PM					
3:50 PM	Open	Non-electrical equipment under the IECEx Scheme Mitch Rushing	India/BIS Compulsory Registration Scheme Grant Schmidbauer	Technical Standards and Product Liability in the EU Susanne Wende	KISS EMC Jim Bacher
4:00 PM					
4:10 PM					
4:20 PM					
4:30 PM					
4:40 PM					
4:50 PM	Transition/Networking				
5:00 PM	Open	Wearable Technology - Beyond Electrical Safety Ted Eckert	Market Access into the biggest market in Africa:Nigeria James Kunle Olorundare, MNSE	Open	Future in Radiated Immunity Testing Christopher (Flynn) Lawrence
5:10 PM					
5:20 PM					
5:30 PM					
5:40 PM					
5:50 PM					
6:00 PM	Monta Vista Robotics Team Demo				
6:10 PM					
6:20 PM					
6:30 PM					
6:50 PM					
7:00 PM	Chapter Annual Meeting	Technical Committee General Meeting			
7:10 PM					
7:20 PM					
7:30 PM					

Wednesday	Wednesday Salons A-J	Wednesday San Jose Ballroom	Wednesday Salons KL	Wednesday Salon M	Wednesday Monterey Room
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Wednesday	Wednesday Salons A-J	Wednesday San Jose Ballroom	Wednesday Salons KL	Wednesday Salon M	Wednesday Monterey Room
12:40 PM 12:50 PM	Open	Risk-Based Thinking - A Case Study Mark Leimbeck	Hazardous substance restrictions and why they are restricted Dan Roman; Craig Harvey; Lauren Hutchison	Lithium Ion Battery Packs - Exposing safety risks via testing on a budget John Copeland	EMI Suppression Techniques for Power Electronics Design Shuo Wang
1:00 PM					
1:10 PM					
1:20 PM					
1:30 PM					
1:40 PM	Transition/Networking				
1:50 PM	Open	Fourth edition of the 60601-1-2 Medical Device EMC standard, preparing for the changes Naysahn Saeed; Harald Buchwald	Basis for the estimation of measurement uncertainty in safety tests Silvia L. Diaz Monnier; Andrea Méndez; German Gomez; Lucas Lago	The Quiet Transformation of Vehicles without Computers, to Computers on Wheels Jan Swart	Preparing Wireless Devices for Regulatory Compliance Approvals Grace Lin; Nicholas Abbondante
2:00 PM					
2:10 PM					
2:20 PM					
2:30 PM					
2:40 PM	Transition/Networking				
2:50 PM	Open	IEC 60601-1-2 4th Edition EMC and RMF Nicholas Abbondante	Compliance Matters for Mass Market Drones: A Survey of Industry Practice Jeffrey Wurzbach	Generalized formula for the calculation of a probabilistic metric for random hardware failures in redundant subsystems Atsushi Sakurai	Transmitter Certification Needs Jim Bacher
3:00 PM					
3:10 PM					
3:20 PM					
3:30 PM					
3:40 PM	Transition/Networking				
3:50 PM	Closing Session, Prize Raffle and Wrap-Up				
4:00 PM					
4:10 PM					
4:20 PM					

Registration Information

Online registration is now open: <http://psessymposium.org>

The fees are as follows, and must be paid in USD

	Through April 1, 2016	After April 1, 2016
Registration Type	Advanced	Regular & On-site
IEEE Members	\$650	\$700
Non-Members	\$750	\$800
Student IEEE Life Members	\$175	\$200

Symposium registration includes access to all technical sessions, invited speakers, lunches, breakfasts, breaks, the reception, and one copy of the ISPCE 2017 Proceedings.



Daily registration includes access to technical sessions on the specific day, and the lunch, breakfast, and breaks. Daily registration does *not* meet the author and presenter registration requirement. One-Day registration rates are as follows:

	Through April 1, 2016	After April 1, 2016
Registration Type	Daily, Advanced	Daily, Regular & On-site
IEEE Members	\$400	\$425
Non-Members	\$475	\$500

Please note that there will be no refunds for cancellations after April 24, 2017.

Best Paper Award Nominations

Continued from page 2

Environmental Conditions During Compliance Testing; Authors: Peter Khoa Do – McMaster University and Electrical Safety Authority; Jacques Martin – Electrical Safety Authority

Abstract: The process of compliance testing for electrical equipment can be performed in a multitude of environments possessing various unique conditions that are potentially critical influences to the proper results of each test. This is particularly true when testing is performed outside of the controlled environment of a laboratory as it may be in field evaluation. The variations in these environmental conditions raise concerns as to the requirement for the compensation of results and their documentation based solely upon the severity of their influences. By researching the general effects of environmental factors, including ambient temperature, atmospheric pressure, and humidity, on the various electrical properties of different electrical components and equipment, and applying such considerations to common compliance testing methods, the requirement for the technical documentation of these factors will be determined. The data analyzed suggested that each environmental factor exhibits similar effects to varying degrees when applied to the common compliance testing methods consisting of the dielectric strength test, leakage current test, ratings test, and temperature test. Ultimately, due to the variations in their significance when applied to common compliance testing methods, the consensus for evaluators of equipment to document environmental conditions in addition to compensating results is deemed necessary only while operating in environments to which specific conditions are severe enough to distort results.

Grounding/Earthing Revisited; Author: Richard Nute – Richard Nute Product Safety Consulting

Abstract: Earthing (grounding) cord-connected products creates an equipotential environment for personnel which provides protection against electric shock. The earthing scheme is both a principal safeguard and a supplemental safeguard. The principal safeguard function returns leakage currents to their source and prevents touch current. The supplemental safeguard function returns fault current to its source, limits accessible part voltage, and enables installation overcurrent operation.

Evaluation of Blasting Media Suitability for Removal of Common Electronics Potting Compounds; Authors: Michael Mehlman – Exponent Consulting; Mitch Costley – Exponent Consulting; Shilpi Panzer – Exponent Consulting; Lucas Berla – Exponent Consulting; Erwin K Lau – Exponent Consulting; David Rolfe – Slip Chip

Abstract: Various readily available powdered materials were examined in order to determine their usefulness for removal of common electrical potting materials via microabrasive media blasting. Each blasting media was tested against five different potting materials, and was additionally characterized in terms of mechanical and triboelectric properties. Additional work has been cited that lends credence to the empirical observations found herein. In summary, of the materials tested,

only baker's sugar appears to be a suitable candidate for removal of the tested potting materials on sensitive electrical printed

* * * * *

The Best Paper Award shines a light on a new way of looking at the Product Safety Engineering Society, and on ourselves. We are embarking on an initiative to increase the authorship of formal papers at the ISPCE symposia. We want the PSES to be the source that professionals go to first for critical information on product safety engineering and compliance issues. The ISPCE symposium is the PSES' major outlet of this information.

IEEE Conference peer-reviewed papers are stored archivally in the IEEE Xplore digital library. IEEE Xplore is a global source for industry and academia. Thus, the experience and knowledge that is concentrated into these papers can serve as perpetual notoriety for authors and our IEEE society.

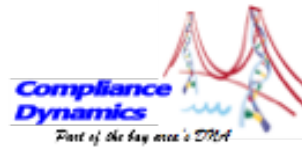
Focusing our knowledge and experience into peer-reviewed papers helps us as develop as professionals. Authoring and presenting papers advances our communication skills and outreach. Presenting at local IEEE chapter meetings exposes us to a network of colleagues outside of our company. With practice, our confidence builds, and we can be more involved in the many IEEE activities.

The PSES Board of Governors has given me the task of coordinating peer-reviewed paper development. You may not yet be at the level of these Best Paper nominees, but you can be. Please let me know your questions and ideas for building this program.

See you at ISPCE2017!

Don Gies – Member, IEEE PSES Board of Governors

Exhibitor Listing





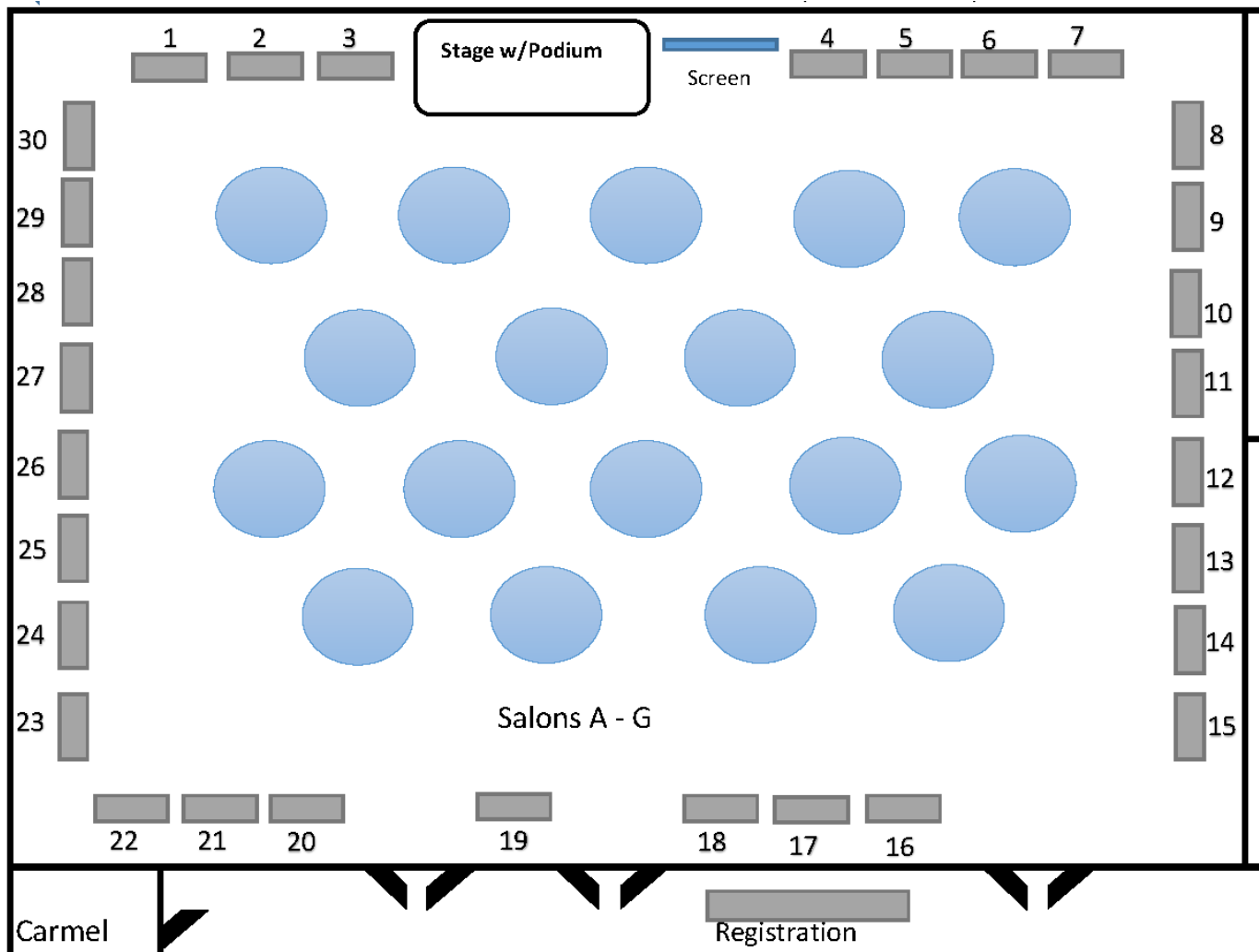
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There are still spaces available to exhibit!

Contact Sue Kingston to secure your spot: skingston@conferencecatalysts.com

Floor plan



Patron Listing

Platinum Patron



Gold Patrons



Speaker Gift Patron



Lanyard Patron

