

PSMA Capacitor Committee Minutes/Agenda APEC 2021

Attendees December 11, 2020

Fred Weber – Future Technology Worldwide

Pierre Lohrber – Würth

Wilmer Companioni – KEMET

Beth Massey – TEA - The Energy Authority

Caleb Breazeale - Independent

Ed Herbert – PSMA – Magnetics Workshop

Ed Lobo – CDE

Eduardo Drehmer – TDK

Eric Schneider - Independent

Frank Puhane – Würth

Hengzhao Yang – New Mexico Institute of Mining and Technology / IEEE

Joe Horzepa – PSMA

John Horzepa - PSMA

Kevin O'Connor – Caporus Technologies

Mark Scott – Miami U / IEEE

Matt Wilkowski – Magnetics Committee – Workshop

Mike Cannon - TDK

Mike Dombrow – Faratronic

Mike Dombrow Jr – Faratronic

Nick Visic – AISHI Capacitors

Norm Schutzkus – Richardson Electronics

Phil Whitmire – CDE

Raj Pulugurtha – Florida International University

Rene Kalbitz -Würth

Rob Haywood – Gore

Scott Franco – CDE

Thomas Gietzol – Collins

Victor Boyadzhyan – AiTech Systems

William Mak – KEMET

**Next Meeting Wednesday, January 6,
2021 at 10:00 CST**

Committee Webpage

The PSMA Webpage have been completely updated!!!

We can always use more!!! If you have a training presentation or file please upload it to the following DropBox and let me know:

<https://www.dropbox.com/request/Nq4EYFznmfUKY7Qdiicu>

**New logo for Capacitor Committee + Logo for
Energy Storage**

Webinars

There is a desire and demand to restart the Fundamentals Webinars from the beginning with a fresh approach. Need volunteers, preferably from those that were NOT part of the first series.

PSMA Capacitor Committee Offers Capacitor Fundamentals for Automotive High-Power Applications

Picking Capacitors for your application is always a challenge. Deciding on the proper component given all of the various parameters associated with your design and the numerous capacitor technologies results in choosing a part that best balances the pros and cons of each component and how your application will react to the use of that specific part. Add in the need to consider an automotive application with the temperature extremes, need for EMI suppression, not to mention shock and vibration and you have a true challenge for only the most experienced engineers.

PSMA Capacitor Committee will be offering an Educational Webinar presented by a design leader in the automotive industry explaining a best practices approach to choosing the capacitor that will be best for your application. The Webinar will be focused on High Power applications separated by the different voltages automotive applications require (i.e., 12V/48V, and 400V/800V). Specific capacitor locations will be identified on schematics, and their requirements will be reviewed and all of the various critical parameters will be identified. Various suppliers' products will be analyzed using their datasheets as possible candidates. Will we be able to find the best solution? We will have to see...

Eric Schneider, Independent Engineer with over 35 years of engineering experience.

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Roadmap Webinar 2021 Ideas – Reviewing Options

**Mark Scott – Conditional Monitoring for Capacitors
Abstract Submitted – February 4, 2021**

FUTURE ROADMAP Webinar Ideas

NEED IDEAS!!!

New technologies for Broadband application Capacitor support
Tantalums

New in Ultra Caps – Takata, more than ELC – Hybrid package?

Application Driven – how different technologies behave – Filtering, Inverters (DC Link), Power Supplies, compare and contrast technologies and certain parameters for each technology.

Also include Environmental technology discussion (i.e. Heat, Vibe, EMI).

Wurth – Power Supply - DC Link / MLCC DC bias

EPCOS – Filtering X/Y Caps, Rob Haywood – Gore’s new dielectrics, Wurth - Polymers with higher capabilities

Cap optimization for EMC & EMI, BOM, layout, etc. - Raj

Raj and Victor to supply

Workshop Mission Statement –

The PSMA Capacitor Committee Annual Workshop aligned with APEC has a mission to educate the attendees on capacitor trends, technologies, and innovations. Wherever and whenever applications need energy, Capacitors are at the spotlight, and as energy moves the world it is incumbent for everyone to keep their finger on the pulse of capacitor issues. PSMA’s Capacitor Committee is committed to present the best material available to meet the industry’s needs.

Workshop 2021 – Overview – Tuesday June 8, 2021 in the Convention Center

2021 Theme

**Design Techniques for the 21st Century –
Beyond the Scenes make sure you use
the correct Capacitor.**

See Chart -

**March 1 deadline for submission of slides for the
Workshop.**

**Possible sponsorships of “Dinner”, “Lunch”, or “Networking Session”.
Possibly give a few registrations, and a special presentation slot for
promotional opportunity for the sponsorship.**

Workshop – Continuing Education

Mark Scott has registered both the Capacitor Workshop and the
Magnetics Workshop for Continuing Education Certificates. Attendees
wanting credit will be charged \$5.00 to receive their certificate.

Here is the link to the information:

<https://www.ieee.org/education/continuing-education.html>

Here is the link for the application:

http://fm34.triple8.net/fmi/iwp/cgi?-db=IEEEapps_v117&-loadframes

4 Poster Session for more Academic Input.

To be added to demo area 2021!

**NEED TO PLAN 2021 WITH IN-PERSON &
VIRTUAL FORMATS IN PARALLEL! Also
planning for a Hybrid solution allowing both
in-person and virtual presenters (so long as
they can be available for Q&A. Also, allowing
for in-person and virtual attendees, both
paying the same charge.**

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Industry Session 2021 –

Abstract for Industry Session 2021

The PSMA Capacitor Committee proposes an industry session for APEC 2021 focused on capacitor solutions for emerging technologies. Wide bandgap, millimeter wave, and embedded componentry are all innovative technologies that will make an impact on design and engineering of future devices. The advances in silicon precipitate an equivalent seismic shift in passive componentry and specifically capacitors. Once afterthought components, as technologies operate closer and closer to the cutting edge all areas of circuit design must be well-optimized, including capacitor performance and selection. Even the simulation of systems must consider effects that were previously considered to be trivial.

November 23, 2020 Deadline for Proposals

January 11, 2021: Notification of acceptance and timing

March 26, 2021: Presentations Due for inclusion on the thumb drive

Energy Storage Industry Session Will Be Separate (7 Sessions)

Add the PSMA logo to all slides, on bottom left of their slides. The presenter can also add their corporate logo to the upper right. (Discreet Branding)

2nd slide should be bio of the presenter.

Energy Storage & Their Applications

Subset of Capacitor Committee

Members

Eric Schneider / Co-Chair

Ed Herbert / Co-Chair

Hengzhao Yang

Peter Victor

Victor Boyadzhyan

Patrick La-Fevre ???

Rene Kalbitz

Need to get someone from Energy Harvesting – Patrick La-Fevre

Nihal??

Others?

GET MORE COMMITTEE PARTICIPANTS