EIPC SPEeDNEWS

The Weekly On-Line Newsletter from the European Institute of Printed Circuits.
Issue 9 - March 2021

NEWS FROM THE EIPC

EIPC TECHNICAL WEBINAR – WEDNESDAY 17TH MARCH 2021, 15.00 CET

WOKE UP!

There is a relatively new word in the English Dictionary, it's 'woke'. We have a new definition, and it is linked to that very important current topic – mental health. WOKE stands for Working On Knowledge Extension, and this can only be achieved by attending an EIPC Webinar. EIPC has always had mentally extremely fit members, which may account for its success, so on 17th March you can have a work-out (actually it will be a work-in as you will be at home) with three of them who will be delighted to share their exercises with you.

The topic will be 5G. -The signal speed in electronics applications is driven by 5G. There is a clear demand in the whole PCB supply chain on finding solutions to decrease signal losses at the PCB level. The understanding of loss savings in signalling at PCB level is meaningful from functionality but also from the signal point of view and as well the total power consumption of the product. Thus OEMs are challenging the supply chain to find the solutions to decrease signal losses and improve the signal quality at the PCB level.

In this session we will have interesting papers on the dielectric material, copper foil, and testing solutions, supporting the challenge of signal losses driven by these high-speed products.

Paul Waldner from Multiline International Europa has agreed to be the moderator. Our 3 speakers are:

Dipl.-Ing. Manfred Huschka, Vice-President Global Marketing, AGC Multi Material General Division. A PCB industry professional, the title of his paper is Electrical and Mechanical Reliability of an RF Laminate are Key Requirements For Selection in 77 GHz ADAS sensor.

In essence, his paper describes how the selection of non-reinforced PTFE laminates for 77/79 GHz is the correct one. In fact, certain features demonstrate a second

generation laminate is needed in order to meet the requirements of next generation 77/79 GHz ADAS. Late 2019 saw this laminate going into its first ADAS sensor mass-production, and in mid-2020 a second one followed, of even bigger sensor volume. The market introduction of “almost no profile” ED copper foil provides an even improved insertion loss over rolled annealed copper foil, in addition to its lower cost. Only PTFE laminates result in high enough copper peel strength even at repeated rework cycles.
All European and Asian pcb manufacturers capable of making 77/79 GHz ADAS pcbs have processing experience of this new laminate; therefore larger-scale introduction is just the logical development.

Julie Mouzon from Circuitfoil in Luxembourg will present a paper on ultra-flat ED-Copper foils dedicated to high-speed digital and RF circuit boards.

High speed signal transmission is more and more required in order to support huge amounts of data transfers in electronic devices. The roughness of the copper foil has become a significant factor that influences conductor loss in high speed digital and RF PCBs, particularly as they move above the 10 GHz range. At high frequencies, the current density is larger near the surface of the conductor (skin effect). When the so-called skin depth reaches the same dimensions as the roughness profile of the foil, the current follows its contour, inducing additional loss. The challenge is therefore to offer the smoothest copper foil profile while ensuring a good level of peel strength. In this context, a full characterization of the copper foil profile is also of prime importance.

Martyn Gaudion is the face of Polar Instruments , and needs no introduction. He will indicate the primary drivers for insertion loss on high speed base material.

PCB fabricators and designers are very familiar with the drivers for controlled characteristic impedance traces on highspeed PCBs, trace width, height over substrate and base material dielectric constant that set conditionsfor signalling up to 2GHz or so. But when pushing above that region to multi GHz operation, a raft ofnew physical properties need to be taken into account. The drivers for impedance are still important,but they must be considered alongside the physical effects of copper conductivity, substrate dielectric loss, and the impact of surface roughness on signal loss. Careful stackup design can sometimes save on stepping into more exotic materials, so the ability to model all these effects before evaluating physical product is an important time and cost saving step. The presentation wraps up with some insights into testing at up to 40GHz.

Each speaker will have 15 minutes and we will end with a panel discussion.

To ensure a place at the Webinar, please register online: www.eipc.org
The webinar is free of charge for EIPC members.
The registration fee for non-members is € 50,- per person.

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NEWS FROM BELGIUM

New Gerber Layer Format Specification

Ucamco has published a new revision of the Gerber Layer Format Specification.

The formal grammar of the complete language, in an Extended Backus-Naur Form, is now integrated in the specification. Furthermore, the G74 arc mode and moiré primitive were deprecated. An investigation of a representative sample of 10,000 recent files revealed that these constructs were very rarely used, and the same result can easily be achieved by the remaining often used constructs. It is our constant aim to keep the language as simple as possible, and eliminate superfluous elements.

You will find the full specification via
https://www.ucamco.com/files/downloads/file_en/416/the-gerber-layer-format-specification-revision-2021-02_en.pdf?1109f5f3efc7ef822119bd893d685572

For further information, please contact:

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NEWS FROM NORWAY

Elmaticas Jan Pedersen honoured with the prestigious Dieter Bergman Fellowships Award

"I am deeply honoured to be chosen for this prestigious award, and happy to bestow two excellent students at a University close to my heart, with the Dieter Bergman Scholarship", says Elmaticas Jan Pedersen.

IPC announced this year's winners of the Dieter Bergman Award at the digital IPC Apex Expo Awards session yesterday, US time. Jan Pedersen was awarded for his work with several groundbreaking PCB standards.

"Jan led the development of the first ever IPC document dedicated to automotive electronics, the 6012 DA in 2016. He led the revision of the document in December 2018. He also led the development of the first ever document for medical device electronics, the IPC 6012EM released August 2020. He is currently leading a corresponding IPC 6013EM effort for flexible and rigid-flexible printed boards in medical device electronics. Astonishingly Jan has acted on a total of 30 IPC committees", said IPC CEO John MItchell during the digital Award transmission.

Introducing IPC to the medical field and instructing the next generation
"Thank you Jan, not only for introducing IPC to the many areas of the medical field that need our help, but for instructing the next generation on the importance of standards when creating new electronics that can help better people's lives", Mitchell finished.

Fame, glory and scholarship
In addition to fame and glory, recipients of the Dieter Bergman IPC Fellowship Award, are eligible to bestow the Dieter Bergman Memorial Scholarship upon a university or college of their choice.

"I have chosen two students working on a Medical project at the University of South Eastern Norway. Three reasons for choosing this project: it is medical, it needs miniaturization and I have a close relationship to the electronics industry in this area, The Electronic Coast. We use the University's

premises when we meet, discussing PCBs in harsh environments and IPC standards", said Jan Pedersen.

Elmatica double the scholarship
The project is called "Arm neuroprosthesis equipped with artificial skin and sensorial feedback" – ARMIN, and the two students are Saad Rabbani and Samarbir Singh.
Saad and Samarbir are both masters in micro- and nano systems technology, working on their master's thesis related to the ARMIN project .

Both the students are working on research that are very central to this project.
Since the scholarship is given to two students, Elmatica has decided to double it to 2000 USD.

"Inspired by IPC we plan to take this opportunity and make the scholarship into a yearly Elmatica event", Pedersen finishes.

Boosted interest in the field of electronics and Microfabrication
The Scholarship was received with honour and enthusiasm by the two students when Jan Pedersen broke the news during an already planned status meeting of the project.

"Thank you for giving me such a good surprise, I felt really honoured when I came to know about receiving this scholarship. This award boosted my interest in the field of electronics and Microfabrication and I will put my efforts more heartedly. Lastly, I would like to thank Jan for awarding me with this scholarship and my supervisors who nominated me for this award, they backed me during all my ups and downs, and encouraged me not to give up", said Saad Rabbani.

"I feel very excited and blessed at the same moment to have an opportunity to receive the honour of winning this scholarship. I cannot find the words in which I could express how I exactly feel. This thing came to me as a complete surprise which left me speechless. All in all, this means a lot to me and I would like to thank Jan who considered me capable enough of having this. And special thanks to my supervisor Lars Cyril Blystad and Kristin Imenes who has always been there to support me", said Samarbir Singh.

A recognition of the educational system and research at USN
The Institute for Microsystems at the University of South-Eastern Norway(USN) received the news with enthusiasm and honour.
"We are incredibly grateful that Jan has chosen to grant two of our master students within micro- and nanotechnology with this scholarship. Saad Rabbani and Samarbin Singh are completing their master thesis in collaboration with the research project ARMIN, with the set goal to develop an individual tailored arm neuroprosthesis, where miniaturisation is crucial. We see this allocation as a recognition of our educational system and research, and we congratulate Jan with The Dieter Bergman Award, says Kristin Imenes at USN.

Elmatica achieve 50 percent gender balance at management level

"What other day, than straight after the International Women's Day to break such positive news. The last five years we have worked diligently towards reaching our goal on gender balance", says CEO Didrik Bech.

Five years ago, Elmatica set a goal to improve their gender balance. Today, the day after The International Women's Day they announce that the goal has been achieved, increasing the percentage of females at the management level from 10 to 50 percent, and the work continues.

"Women's equality is not a goal that one can set, reach and then forget, it's a continuous process, which the world, on a global perspective, unfortunately, is far away from reaching.

However we are very proud to have reached our goal of equal representation of women and men at our management level. We will continue to work towards equal opportunities for women and other under-represented groups in our company", says Bech.

Always aiming for the best candidate

For Elmatica it has never been about gender, it's always about qualification and experience.
"When searching for people for our positions in our departments, the focus has been to attract the best candidates. However, by focusing our communication and branding towards a more female approach, we have been fortunate to attract some of the best female candidates in the industry, to come work with us", says Bech.

"A thorough focus on gender equality over the last five years has given results. Five years ago we had one female representative at our management level, now we are pleased to announce that we have increased to 50%. For me it's a given to offer equal opportunities no matter what gender you are. As a father of two girls, this is personal", says Bech.

Promotion during pregnancy - a natural given

Elmaticas gender balance milestone and focus is part of the bigger picture of a company trying to incorporate their values: transparency, predictability and integrity, in every step of their flow, business and internal focus when it comes to internal development and HR as well.

"When I was pregnant with my first child I was promoted and given more responsibilities, my French friends were quite shocked. This says a lot about the mentality of the top management at Elmatica. I was also encouraged to take as much maternity leave as possible, and in Norway that is one year, which was absolutely incredible and offered me predictability when I was entering a new phase of my life", says Customer Service Manager Estelle Blocklet.

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NEWS FROM THE UK

Wednesday 21st and Thursday 22nd April 2021

Designing the future of additive manufactured Electronics

Addressing the Key Challenges of the Future Adoption of Additive Manufactured Electronics

The revolution in additive manufacturing is creating new opportunities for the manufacture of electronics products instead of standard surface mount assembly on printed circuit boards. The potential benefits include miniaturisation and improved performance through integration of the electronics within the structure of the component and truly flexible manufacturing for customisable products.

This Free Workshop, organised by the EPSRC Design for Additive Manufacturing Network and IMAPS-UK, aims to generate a greater understanding of the drivers and motivation that will facilitate multidisciplinary discussions, cross-fertilisation of ideas and drive future innovation in designing for the future of additive manufacturing for electronic systems.

Register Here for Free

For Any other details or information Please contact:
IMAPS-UK Secretariat
125 High Street Chesterton, Cambridge, UK


iMAPS
UNITED KINGDOM

News from WECC members

WECC World Electronic Circuits Council

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NEWS FROM THE IPC

IPC Launches New Thought Leaders Program to Enhance Awareness and Insights on Electronics Industry Trends

BANNOCKBURN, Ill., USA, March 11, 2021 – IPC today unveiled a new Thought Leaders Program in which industry experts will assist IPC on key industry issues and offer valuable insights to IPC members and key external stakeholders.

"IPC is building its leadership on the issues that are driving change for the electronics manufacturing industry," said John Mitchell, IPC President and CEO. "As an association representing thousands of companies, we need to be astutely aware of a range of change drivers and how they are interconnected. IPC will leverage these experts' insights to lead and influence change for the better."

The Thought Leaders Program will be chaired by Mike Carano, an executive at RBP Chemical Technology and a member of IPC's Hall of Fame.

"I'm thrilled and honored to coordinate the Thought Leaders Program and the work of this distinguished and diverse group of individuals," said Mike Carano. "The industry is on the cusp of exciting change, and the thought leaders IPC has assembled will help guide the industry to new heights."

IPC has retained a select group of experts to generate ideas and insights in five areas: education and workforce; technology and innovation; the economy; key markets; and environment, health, and safety. The Thought Leaders named today are:

- Mike Carano (Chair), VP of Technology & Business Development, RBP Chemical Technology
- Olivier Coulon, Consultant, Decision Etudes & Conseil
- Payman Dehghanian, Assistant Professor of Electrical and Computer Engineering, The George Washington University
- Bryan Erwin, Managing Partner, BlueWave Merchant Partners
- Denny Fritz, Consultant
- Savita Ganjigatti, VP of Engineering, Sienna Ecad Technologies
- Carol Handwerker, Professor of Materials Engineering, Purdue University
- Matt Holzmann, President, CGI Americas

- Meredith LaBeau, Director of Process Engineering, Calumet Electronics
- Joe O'Neil, CEO of Green Circuits
- Leslie Weinstein, Founder/CEO, CMMC Consulting

The Thought Leaders' responsibilities will include providing publishable material in their subject areas; flagging opportunities for IPC engagement; and participating in quarterly roundtable discussions. Each expert is expected to fulfill at least one 12-month term, during which quarterly contributions will be expected.

One of the program's first projects will be a report on the U.S. Defense Department's Cybersecurity Maturity Model Certification (CMMC), an ambitious effort to better protect the cyber security of the defense industrial base. The electronics industry supports this initiative but has concerns about its ongoing implementation.

More information about the IPC Thought Leaders Program including a dedicated webpage will be available soon.

Two Industry Volunteers Receive IPC President's Award

BANNOCKBURN, Ill., USA, **March 10, 2021 –** In recognition of their significant contributions of time, talent and ongoing leadership in IPC and the electronics industry, Yusaku Kono of Japan UNIX, and Jon Vermillion, Ball Aerospace and Technologies, were presented with IPC President's Awards at IPC APEX EXPO on March 9.

Kono, who serves on the Connected Factory Initiative Subcommittee, the J-STD-001 and IPC-A-610 Automotive Addendum Task Group, the High Voltage Cable Task Group, and the WHMA A-610 training committee, was honored for dedicating his efforts to enhancing the growth of IPC standards among Japanese electronics manufacturers.

Vermillion, a mentor to emerging engineers who co-chairs the 5-22A (IPC-J-STD-001) committee and IPC-J-STD-001 training committee, was honored for his leadership of the IPC-J-STD-001 task group as well as his activity on the 20 IPC committees on which he serves. His volunteer activity with IPC includes his Certified Standard Expert certification in IPC-J-STD-001, IPC/WHMA-A-620, and IPC-6012.

"We are happy to present the President's Award to Yusaku and Jon, in appreciation of their dedication to IPC and to the global electronics industry," said John Mitchell,

IPC president and CEO. “They are prime examples of leaders helping industry build electronics better.”

Three Long-time IPC Volunteers Receive Dieter Bergman

IPC Fellowship Award

Three IPC volunteers who have fostered a collaborative spirit, made significant contributions to standards development, and have consistently demonstrated a commitment to global standardization efforts, were presented with Dieter Bergman IPC Fellowship awards at IPC APEX EXPO 2021. Michael Ford, Jan Pedersen, and Peter Tranitz were chosen as award recipients because they embody the work ethic and spirit of the late Dieter Bergman, a pioneer and industry icon. They will bestow Dieter Bergman Memorial Scholarship awards on the university or college of their choice.

Michael Ford, Aegis Software, is an established thought leader for Industry 4.0 and digital smart factories. Serving on 18 technical committees including the Committee Chairman Council, the Connected Factory Initiative (CFX) Subcommittee, Supply Chain Traceability and Trust Subcommittee, and the Technical Activities Executive Committee (TAEC), Ford chose the engineering department of Villanova University, alma mater to the founders of Aegis, as the scholarship recipient, with a specific request that it be used to promote an opportunity for a woman in the industry.

Jan Pedersen, Elmatica, active on 30 IPC committees, is the chair of the IPC-6012 Medical Addendum Task Group and the IPC-6012 Automotive Addendum Task Group. Pedersen led the development of the first IPC document dedicated to automotive electronics – IPC-6012DA, and the first dedicated to medical device electronics – IPC-6012EM.

Pedersen chose a specific project as the recipient of the Dieter Bergman memorial scholarship. Two universities – one in Norway and one in Romania, collaborate to create an arm neuroprosthesis equipped with artificial skin and sensorial feedback for patients with partially amputated limbs. Elmatica has agreed to double the scholarship so that two students will receive the benefit of the Dieter Bergman award.

Peter Tranitz, Continental Automotive, is active on several IPC committees, and co-initiated the Cold Joining Press-fit Task Group and Cold Joining Press-fit Handbook Task Group, serving as co-chair. An expert in press fit technology and tin whiskers, Tranitz was instrumental in developing IPC-9797, High Reliability Press-fit standard.

Tranitz offered his scholarship to the physics department at the University of Regensburg, Germany.

“The recipients of this year’s Dieter Bergman Fellowship award have brought innovation and international influence on IPC standards development. We are indeed fortunate that they have chosen to volunteer their considerable talents and expertise with IPC and the electronics community,” said John Mitchell, IPC president and CEO.

IPC’s Highest Honor, the Raymond E. Pritchard Hall of Fame Award, Presented to Karen McConnell, Long-time IPC Volunteer and Mentor

BANNOCKBURN, Ill., USA, **March 9, 2021 –** In recognition and acknowledgement of her extraordinary contributions to IPC and the electronics industry, Karen McConnell, Northrop Grumman, was presented with the IPC Raymond E. Pritchard Hall of Fame Award at IPC APEX EXPO on Tuesday, March 9. IPC’s most prestigious award, the Hall of Fame is given to individuals who have provided exceptional service and advancement to IPC and the electronics industry.

McConnell is a senior staff CAD CAM engineer in the engineering environment development and support department at Northrop Grumman Enterprise Services sector in Linthicum, Maryland. Her primary responsibility is developing a common shared EDM library and supporting the electrical and PCB design tool initiatives across Northrop Grumman Mission Systems.

An active IPC volunteer and leader for IPC and the electronics industry for more than 30 years, McConnell supports numerous IPC standards development committees, including the Land Pattern Committee, Design for Excellence (DFX) Subcommittee, Generic Requirements for Digital Twin Task Group, CFX Subcommittee, Terms and Definition Committee and Electronics Documentation Committee.

Karen was elected Chairperson of IPC’s Technical Activities Executive Committee (TAEC) in 2020 and serves as Chairperson of the Technical Activities Executive Committee Global Committee. She is also chairperson of the IPC Design Community Leadership team. A recipient of the IPC President’s Award in 2013, McConnell is a strong advocate for new engineers, serving as one of the first mentors in IPC’s Emerging Engineer program.

“Karen’s contributions to IPC are extraordinary,” said John Mitchell, IPC president and CEO. “Her passion for the industry and commitment to the growth of younger engineers moved IPC and the electronics industry forward. We are thrilled to welcome her as the newest recipient of the IPC Hall of Fame award.”

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International Diary

2021

6th EIPC Technical Snapshot Webinar
Registrations via www.eipc.org
March 17

7th EIPC Technical Snapshot Webinar
Registrations via www.eipc.org
April 14

8th EIPC Technical Snapshot Webinar
Registrations via www.eipc.org
May 19