IEEE ELECTRONICS PACKAGING SOCIETY

Empa
Materials Science and Technology

SWISS PHOTONICS

EPS Distinguished Lecture by Prof. Dr.-Ing. Dr. h.c. Karlheinz Bock

Electro-optical 3D Hetero-integration of multifunctional systems

EMPA –Dübendorf, 24th October 2019

As part of continuing education program, EPS Switzerland chapter in collaboration with Swiss Photonics Packaging Lab (SPPL), is organizing a lecture about 'Electro-optical 3D Hetero-integration of multifunctional systems' by Prof. Dr. Karlheinz Bock. The goal of this program is to provide a platform where people can get an in-depth knowledge about the current trends in electronic packaging field, and to enable information exchange about their activities and interests.

Program

14:30 – 14:40 EPS Welcome and Introduction
Rony Jose James, IEEE EPS chapter chairman, CSEM SA

14:40 – 14:50 Introduction to SPPL
Stefan Mohrdiek, CSEM SA

14:50 – 15:00 Introduction to EMPA
Pierangelo Gröning, Member of the Board of Directors / Department Head, Empa

15:00 – 16:30 Electro-optical 3D Hetero-integration of multifunctional systems
Prof. Dr.-Ing. Dr. h.c. Karlheinz Bock, Chair of electronics packaging and director of the institute for electronics packaging (IAVT) at TU Dresden

3D Heterointegration gains relevance for high-density integration of electro-optical systems to be applied in highly performant 3D integrated communication systems in the future for tactile internet and 5G mobile networks. Co-integration of electrical and optical devices and wave-guides is a consequence in order to cope with the demand of increasing the bandwidth efficiency in communication systems and for electrical and optical RF integration on interposer for network nodes of the future. Electronics packaging develops towards a generic part of the systems concept and we may see much more process concepts where we need to consider "packaging first" in order to meet the performance, reliability, energy and cost requirements of 3D integrated high-performant electro-optical systems.
This lecture focusses on the chances and challenges of packaging at hand of research examples aiming for: electrical and optical wave guide integration for interposer, electrical RF wave guide integration and combination with patch antenna as well as mm wave ICs embedding.

16:30 – 17:30 Lab tour of EMPA (Advanced Joining Technologies & Printed Electronics)
Lars Jeurgens, Laboratory Head "Joining Technologies & Corrosion", Empa

17:30 – 19:00 Apéro

Location: Eawag Forum Chriesbach (next to EMPA), Überlandstrasse 133, 8600 Dübendorf
Arrival: www.events.empa.ch/Anreise
Contact: Rony Jose James, rony.josejames@csem.ch, +41 416727549
Web: www.ieee.ch/chapters/eps, www.empa.ch, www.swissphotonics.net/labs/packaging/sppl

Please register by E-mail (rony.josejames@csem.ch) before 30th September 2019