ADVANCED PROGRAM AND REGISTRATION FORM

15th European Advanced Technology Workshop on Micropackaging and Thermal management

5 & 6 February 2020

MERCURE OCEANIDE VIEUX PORT SUD

Quai Louis Prunier 17000 La Rochelle France
Tel : 33 (0) 5 46 50 61 50/Fax : 33 (0) 5 46 41 24 31
Email: H0569@accor.com.

Hotel reservations will be made by the organizing committee

Workshop arrival day:
Tuesday, 4 February 2020

WORKSHOP COMMITTEE:

Conference chairman:

France:	**Jean-Yves SOULIER (Zodiac Data Systems, Safran Group)**

Technical Program Committee:

France:	**Jacques FAVRE (*a*PSI3d)** **Jean-Pierre FRADIN (ICAM Toulouse)** **Romain HODOT (THALES AVIONICS)** **Sandrine LELONG-FENEYROU (Zodiac Data Systems, Safran Group)** **Bruno LEVRIER (BL Expertises)** **Raphael SOMMET (XLIM Limoges)**
Germany:	**Mohamad ABO RAS (BERLINER NANOTEST)** **Thomas HARDER (ECPE)**
USA:	**Dave SAUMS (DS&A LLC)**

Thermal management remains a crucial constraint in electronics packaging and is a mandatory aspect in every industry – aerospace, automotive, consumer, industrial, military - technology roadmap worldwide.
The upcoming workshop will present some latest improvements in thermal management solutions at system level, in power electronics, in materials, in modelling and in techniques for characterizing and testing materials. It will also present some innovative cooling solutions.

☛Early Registration ends on 12 December 2019
☛Final Registration ends on 30 January 2020

Organized by:
International Microelectronics Assembly and Packaging Society France
17 rue de l'Amiral Hamelin 75016 Paris, France
Tel: + 33 (0) 1 45 05 72 32 E-mail : imaps.france@imapsfrance.org

CONFERENCE SCHEDULE

5 FEBRUARY 2020 (Wednesday)

09.00 am — *Opening address & table tops presentation*
Jean-Yves Soulier, Conference chairman & IMAPS France Treasurer

SESSION 1: CHARACTERIZATION & TESTS
Chairs: Jean-Yves Soulier (Zodiac Aerospace)

09.15 am — **Thermal Characterization of AlGaN/GaN HEMT using thermoreflectance method**
R.Sommet, XLIM (France)

09.40 am — **Combined measurement and simulation method for the thermal characterization of SiC power semiconductors**
A. Caruso, Mentor Graphics (Germany)

10.05 am-10.30 am — **Coffee Break / Table Top Exhibition**

10.30 am — **Thermal resistance of a power die interconnection using macro and nano structured copper interface and PCB-embedding technology**
B. Djuric[12], V. Bley[2], Julien Morand[1], Jean-Pascal Cambronne[2] & Stefan Mollov[1]
1. Mitsubishi Electric R&R Centre Europe 2. Laboratoire Laplace 3. Université Paul Sabatier Toulouse III (France)

SESSION 2: INNOVATIVE SOLUTIONS & MODELLING
Chairs: Boguslaw Wiecek (Technical University of Lodz)/Jean-Pierre Fradin (ICAM Toulouse)

10.55 am — **Cooling quantification of a piezoelectric jet flow for convective exchange improvement of a telecom equipment**
M. Boucher, V. Jeanny, J-P. Fradin, ICAM Toulouse (France)

11.20 am — **Reduction of Fringing-Effect Power Loss by Thermal Analysis and Construction Optimization pf Magnetic Components**
B. Wiecek, R. Kasikowski, Technical University of Lodz (Poland), Aim TTi (United Kingdom)

11.45 am — **Experimental and numerical Zth determination for a double-side cooling SIC module**
JP.Fradin[1], C. Darbois[1], M. Meyer[1] JM. Reynes[2], QC. Nguyen[2] P. Tounsi[3]
1.ICAM Toulouse 2. IRT Saint Exupéry 3.CNRS, LAAS (Toulouse, France)

12.15 am – 01.45 pm — **Lunch**

SESSION 3: MATERIALS (PART 1)
Chairs: Bruno Levrier (BL Expertise)/ Jean-Yves Soulier (Zodiac Aerospace)

01.45 pm — **Characterization of thermally optimized battery packs using Latent Heat Carbon- a case study**
K. Hoell , A. Buchner Schunk Carbon Technology (Austria) **G. Pfuisi J. Kaar** Voltlabor GmbH (Bad Leonfelden, Austria)

02.10 am — **New approaches in the field of pressure less/low pressure sintering for large surface areas**
Dr. B.Ràbay, Nano Join Gmbh, Berlin (Germany),

02.35 pm — **Surface Preparation in Power Device Manufacturing**
E. Schulte, G. Lecarpentier, Ontos Equipment Systems (Chester, NH, USA)

03.00 pm — **Development of Advanced Power Electronics Heats Sinks Incorporatiing annealed pyrolytic graphite layers**
D. Mullen, N. Cochrane, C. McKay, E. Halimic, Aavid – Th. Div. of Boyd Corp (Ashington, UK), **C. Oliet , P. Castrillo , D.Santos , À. Alsati , J. Rigola** Heat and Mass Transfer Technological Center (CTTC), Universitat Politècnica de Catalunya, ESEIAAT (Barcelona, Spain) **K. Hoell , F.Preishuber-Pfluegl,** Schunk Carbon Technology GmbH (Bad Goisern, Austria) **M. Bouton, M. Pontrucher,** THALES AVIONICS ELECTRICAL SYSTEMS (Chatou, France)

03.25 pm – 03.55 pm — **Coffee Break / Table Top Exhibition**

SESSION 3: MATERIALS (PART 1, CONT'D)

Chairs: Bruno Levrier (BL Expertise)/ Jean-Yves Soulier (Zodiac Aerospace)

03.55 pm — **Low Melt Alloy Development for use as a Thermal Interface Material**
T. Jensen, Indium Corporation (USA)

04.20 pm — **Developments in Thermal Management Materials for Power Semiconductors**
Dave Saums, DS&A LLC (USA)

04.55 pm – 06:30 pm — **End of 1st day Sessions / Table top Exhibition**

07.00 pm — **Social Event – Conference dinner**

6 FEBRUARY 2020 (Thursday)

SESSION 3: MATERIALS (PART2)

Chairs: Boguslaw Wiecek (Technical University of Lodz)/David Saums (DS & A LLC)

08.30 am — **Manipulating graphene bulk structures to achieve thermal conductivity beyond graphite**
J. Liu, X. de Logiviere*, N. Wang*, L. Ye*, Electronics Materials and Systems Laboratory, Department of Microtechnology and Nanoscience (MC2), Chalmers University of Technology & *SHT Smart High Tech AB, (Gothenburg, Sweden)

09.00 am — **High PerformanceThermally Conductive Materials for todays demanding electronic packaging applications**
D. DeWire, H. Xia, Hermetic Solutions Group, LLC (Tinton Falls, USA)

09.30 am — **Characterization of Highly Thermally Conductive Heat Sink Materials with Complex Layered Structures**
D. Mullen , N. Cochcrane, C. McKay, E. Halimic , Aavid – Th. Div. of Boyd Corp. (Ashington, UK), C. Oliet, E. Schillaci, J. Rigola, A. Oliva, Heat and Mass Transfer Technological Center (CTTC), Universitat Politècnica de Catalunya (UPC), ESEIAAT, (Barcelona, Spain) Klaus Hoell , F. Preishuber-Pfluegl, J. Freismuth, Schunk Carbon Technology GmbH, (Bad Goisern, Austria), M. Bouton, M. Pontrucher THALES AVIONICS ELECTRICAL SYSTEMS (Chatou, France)

9:55 am-10.25 am — **Coffee Break/ Table top Exhibition**

SESSION 4: TWO-PHASE COOLING

Chairs: Romain Hodot (Thales Avionics)/David Saums (DS & A LLC)

10.25 am — **Enhanced Two-Phase Heat Transfer by Direct-Contact Condensation using Directional Acoustic Actuation**
T. Boziuk, M. K. Smith, A. Glezer, Woodruff School of Mechanical Engineering
Georgia Institute of Technology (Atlanta GA, USA)

10.50 am — **Design of a New Characterisation Bench for Thermal Manufacturing of Flat Heat Pipes in Harsh Environments**
L. Blanc MBDA (France)

11.15 pm — **Thermosyphon for passive cooling of a MVDC converter**
M. Moustaid, V. Platel, C. Buttay, B. Lefebvre
SUPERGRID (France)

11.40 pm — **Pumped Two Phase Dielectric Liquid Cooling for Power Semiconductors**
Dave Saums, DS&A LLC (USA)

12.05 pm — **Loop heat pipe for component cooling under aircraft engine environment**
Vincent Ayel[1], Jérôme Coulloux[2], Maxime Zebian[3], Yves Bertin[1]
[1] Institut Pprime, CNRS-ENSMA-Université de Poitiers, (France),[2] ATHERM (Domene), France, [3] AIRBUS OPERATION SAS, Toulouse (France)

12.30 am -2. pm — **Lunch**

SESSION 5: THERMAL MANAGEMENT FOR RELIABILITY

Chairs: Jean-Yves Soulier (Zodiac Data Systems)

02.00 pm

Failure Analysis of silver-sinter layers, molding compounds and other composites in electronics by pulsed infrared thermography

D. Wargulski[1], D. May[1, 2], F. Löffler[1], T. Nowak[1], J. Petrick[1], B.Wunderle[2], E. Boschman[3], C. Grosse[1], M. Abo Ras[1]

1 Berliner Nanotest und Design GmbH, (Berlin, Germany)2 Technische Universität Chemnitz (Germany)3 Advanced Packaging Center, (Netherlands)

02.25 pm

High Reliability /High Thermal Conductivity solution for power Packaging and Optoelectronics Assembly

T. Fourcade[1], A. Cluzel[1], V. Baco[2], L. Genthon[3], P. Sauvageot[1], P. Tailhades[2]

1 ISP SYSTEM (Vic-En-Bigorre, France)
2 CIRIMAT (Toulouse, France)
3 THALES ALENIA SPACE (Toulouse, France)

02.50 pm

Impact of the Pump-Out- Effect on the long term behavior of thermal properties of power electronic modules

R. Eisele[a], S. Söhl[a] a University of applied sciences Kiel, Institute for Mechatronics, (Germany)

End of Conferences/Closing address: J-Y Soulier, Conference Chairman

3.15 pm – 03.30 pm **Final coffee break and farewell**

NEXT 2020 EVENT :

MiNaPAD 2020, 27 & 28 May 2020, WTC Grenoble, FRANCE

REGISTRATION FORM ATW THERMAL MANAGEMENT

Early Registration ends on 12 December 2019
Final Registration ends on 30 January 2020

RETURN REGISTRATION FORM ADDRESS:

IMAPS France – Florence Vireton   17 rue de l'Amiral Hamelin 75016 Paris, France
Tel: + 33 (0) 1 45 05 72 32 E-mail: imaps.france@imapsfrance.org Web site: www.imapsfrance.org

WORKSHOP FEES INCLUDE: Hotel, lunches and dinners from 4 February 8 pm to 6 February 4 pm.

☐ ***SPEAKERS*** ***520 VAT excluded (624 €* VAT)***

☐ ***CHAIRS/TECHNICAL COMMITTEE*** ***520 VAT excluded (624 €* VAT)***

CONFERENCE ATTENDEES 2 DAYS

Before 12 December,

☐ **IMAPS MEMBER (..................)**	**590 VAT €* excluded**	**708 €*VAT included**
☐ **IMAPS NON MEMBER**	**680 VAT €* excluded**	**816 €*VAT included**

After 12 December,

☐ **IMAPS MEMBER (..................)**	**660 € VAT* excluded**	**792 €*VAT included**
☐ **IMAPS NON MEMBER**	**760 € VAT* excluded**	**912 €*VAT included**

☐ **Special Diet:** ☐ Vegetarian ☐ Other ____________________

CONFERENCE ATTENDEES 1 DAY

200 VAT €* excluded **240 €*VAT included** **(lunch is included, no hotel room)**

Please confirm your attendance to the first day dinner to be held on 4 February by ticking the box ☐
Note: not ticking the box implies that you will not attend the dinner.
Reservations to the first day dinner must be submitted by 30 January 2020, latest

TOTAL FEES

VAT included : **..................€ *No refund in case of cancellation.**
***For foreign companies, VAT will not be charged. VAT excluded ....€**

PAYMENT: By bank transfer or by cheque to IMAPS or by credit card or even on line:https://event.imapsfrance.org

IMAPS BANK REFERENCES

BANK CODE	AGENCY CODE	ACCOUNT NUMBER	RIB KEY	BANK ADDRESS :
30002	08948	0000079088G	25	

IBAN FR 49 3000 2089 4800 0007 9088 G25 **BIC CRLYFRPP**
LCL CREDIT LYONNAIS VERSAILLES ST LOUIS 16 RUE ROYALE 78000 VERSAILLES France

ATTENDEE INFORMATION

NAME______________________________FIRST NAME______________________________

COMPANY/ORGANIZATION______________________________

YOUR VAT NUMBER ______________________________

FUNCTION ______________________________

ADDRESS ______________________________
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Zip________________City______________________________Country______________________________

Phone______________________________Email______________________________

INVOICE ADDRESS (if different of above)______________________________
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