17th European Advanced Technology Workshop on Micropackaging and Thermal management

31st January & 1st February 2024

MERCURE VIEUX PORT
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, 30th January 2024

Sponsored by

WORKSHOP COMMITTEE:

Conference chairmen:
France:
Jean-Yves SOULIER (Safran Data Systems)
Jean-Pierre FRADIN (ICAM Toulouse)
Bruno LEVRIER (BL Expertises)
Alexandre VAL ( Valeo)

Technical Program Committee:

France:
Sandrine LELONG-FENEYROU (Safran Data Systems)
Raphael SOMMET (XLIM Limoges)
Mohamad ABO RAS (NANOTEST)
Thomas HARDER (ECPE)
Boguslaw WIECEK (Łódź University of Technology, Institute of Electronics)
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 such as two-phase technologies and liquid cooling.

Final Registration ends on 29th January 2024

Organized by:
International Microelectronics Assembly and Packaging Society France
17 rue de l’Amiral Hamelin 75016 Paris, France
E-mail : imaps.france@orange.fr
CONFERENCE SCHEDULE
31st January 2024 (Wednesday)

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

SESSION 1: ACTIVE & PASSIVE TWO-PHASE COOLING  
Chairs: Bruno Levrier (BL Expertises) / Jean-Yves Soulier (Safran Data Systems)

09.30 am  
Acoustically-Enhanced Two-Phase Heat Recovery  
Thomas R. Boziuk and Ari Glezer  
(Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, USA)

09:55 am  
Innovative high performance multisource capillary evaporators for 2Φ ammonia MPL dedicated to thermal control of highly dissipative space electronic systems  
Benjamin Lagier¹², Frédéric Boudesseul¹³  
(¹IRT Saint-Exupéry; ²Airbus Defense and Space; ³THALES Alenia Space, Toulouse, France)

10.20 am-10.45 am  
Coffee Break / Table Top Exhibition

SESSION 1 (cont’d): ACTIVE & PASSIVE TWO-PHASE COOLING  
Chairs: Jean-Pierre Fradin (ICAM Toulouse) / Alexandre Val (Valeo)

10.45 am  
The concept of 2-phase cooling of power electronics based on the M-cycle: modelling and prototyping  
Maria Strąkowska, Mariusz Felczak, Marcin Kaluża, Robert Olbrycht, Dmytro Levchenko, Bogusław Więcek  
(Lódź University of Technology, Institute of Electronics, Poland)

SESSION 2: LIQUID COOLING  
Chairs: Bruno Levrier (BL Expertises) / Jean-Yves Soulier (Safran Data Systems)

11:10 am  
Optimizing Thermal Performance: Machine-Learning Insights for Closed-Loop Oscillating Heat Pipes (CLOHP)  
Mira Ibrahim and Majed-Eddine Moustaid  
(Capgemini Engineering, Physical & Mechanical Eng. Department, Blagnac, France)

11.35 am  
Optimisation of lattice structure heat sink design for railway power module liquid cooling  
Jean-Pierre Fradin¹, Ahmad Batikh¹, and Antonio Castro Moreno²  
(¹ICAM Toulouse; ²IRT Saint Exupéry, Toulouse, France)

12:00 pm – 01.45 pm  
Lunch

SESSION 3: MATERIALS & TIM’S  
Chairs: Jean-Pierre Fradin (ICAM Toulouse) / Jean-Yves Soulier (Safran Data Systems)

01.45 pm  
Thermal Interface Materials in Liquid Immersion for Power Electronics and Computing Systems  
David L. Saums,  
(DS&A LLC, Amesbury, MA, USA)

02:10 pm  
Low Melt Alloy Technology for use as a Thermal Interface Material  
Tim Jensen  
(Indium Corporation, USA)

02.35 pm  
Novel TIM1 paste development based on hybrid silver sintering technology  
Liao Yile, Kang Sungsig, Keith Tan, Abito Danila, Lo Miew Wan  
(Heraeus Materials Singapore Pte. Ltd, Global Business Unit Heraeus Electronics)

03.00 pm  
Metal-Diamond Composites using insert-technology for the realization of complex shaped thermal management solutions  
E. Neubauer¹, M. Kitzmantel¹, D. Dewire², J. Vriens²  
(¹RHP-Technology GmbH, Selbersdorf, Germany; ²Hi-Rel Alloys – A Qnnect Company, Niagara Falls, ON L2H 0Y5, Canada)
03.25 pm – 03.55 pm  Coffee Break / Table Top Exhibition

03.55 pm  Sintering and semi-sintering solutions for high power density electronics
Pascal Sbrovazzo  
(HENKEL, France)

04.00 pm  Cement-based ceramic potting compound for the power electronics
Tamara Albert¹, Christophe Féry¹, Tjark Köbinger², Bastian Raab³  
(¹ Heraeus Deutschland GmbH & Co. KG – Electronics;  
² Fachhochschule Kiel, Germany;  
³ Technische Hochschule Nürnberg Georg Simon Ohm, Germany)

SESSION 4: CHARACTERIZATION & TESTS  
Chairs: Bruno Levrier (BL Expertises) / Mohamad Abo Ras (NANOTEST)

04.45 pm  Exploring Relaxation and Recovery Effects in Thermal Interface Materials
Santiago Campos-Boettges, Antonio Harder and Mohamad Abo Ras  
(NANOTEST, Germany)

05.10 pm  RMS current measurement in energetic lines independently of the environmental conditions using IR thermography
Błażej Torzyk, Bogusław Więcek  
(Łódź University of Technology, Institute of Electronics, Poland)

05.35 pm – 06:15 pm  End of 1st day Sessions / Table top Exhibition

06:15 pm – 10:00 pm  Social Event : Aquarium La Rochelle & Dinner.
SESSION 4: CHARACTERIZATION & TESTS (CONT'D)
Chairs: Jean-Pierre Fradin (ICAM Toulouse) / Alexandre Val (Valeo)

08.45 am  
A measuring device for thermal impedance, thermal conductivity and thermal interface resistance  
Hans-W. Marx (Linseis Messgeräte GmbH, Germany)

09.10 am  
Development of a Thermal Test Vehicle to Explore Thermal Pathways in Packages with Large Die Areas through Thermal Transient Impedance Analysis  
Mohamad Abo Ras, Maik Sternberg, Daniel May (NANOTEST, Germany)

09.35 am  
TDM technology, solutions to measure both in-plane (CTE) and out-of-plane (warpage) deformations  
Thomas Moncond'huy (INSIDIX, France)

10:00 am - 10.25 am  
Coffee Break/ Table top Exhibition

SESSION 5: MODELLING & SIMULATION
Chairs: Jean-Pierre Fradin (ICAM Toulouse) / Jean-Yves Soulier (Safran Data Systems)

10.25 am  
Multi-scale simulation of GaN power Amplifier in FanOut Wafer Level Packaging technology (FOWLP)  
Luc Kakou, Raphael Sommet, Jean Christophe Nallatamby (XLIM Limoges University Laboratory, France)

10.50 am  
Benefit of accurate electronic component thermal modeling and calibration for the driver product  
Daliang Zhong¹, Vishweshwara Shanbhog², Álvaro Andrés³ (1 Valeo Lighting Systems, Guangdong, China; 2 Valeo India Private Limited (Lighting Division), Republic of India; 3 Valeo España, Martos (Jaén), Spain)

11.15 am  
Multiphysics Numerical Modeling of Electronic Devices at SLB  
Sophie Salvadori, Mahmoud Ali, Amandine Battentier (Schlumberger, France)

11.40 am  
Physics-based thermal modelling of lithium-ion battery cells  
Quentin Laporte (SERMA Energy, France)

12.05 pm – 1:35 pm  
Lunch

SESSION 6: THERMAL-RELATED APPLICATIONS AND THERMAL ARCHITECTURE
Chairs: Bruno Levrier (BL Expertises) / Jean-Yves Soulier (Safran Data Systems)

01.35 pm  
Thermal Management of Power Electronics for More Electric Aircraft  
Hélène Calmels (Airbus Avionics & Simulation Products., France)

02.00 pm  
Realization of a Multi-Material Packaging for a Complete Functional electronic Unit  
Muriel Sabah (Safran Electronics and Defense, Massy, France)

02.25 pm  
Development of a Lightweight Flight Recorder in accordance to ED-155 standard  
G. Ortiz, S. Horbach, D. Marty, G. Roquet (SERMA Technologies, France)

02.50 pm  
The cooling as a central parameter for affordable on-board charger: the PIACHPA project case study  
A. Marie¹, J. Hérie², JP. Fradin¹, F. Fabre² (¹ICAM Toulouse France, ²Vitesco Technologies France)

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

3.15 pm – 03.45 pm  
Final coffee break and farewell
REGISTRATION FORM ATW THERMAL MANAGEMENT

Final Registration ends on 29th January 2024

RETURN REGISTRATION FORM ADDRESS:
IMAPS France - 17 rue de l’Amiral Hamelin 75016 Paris, France
E-Mail: imaps.france@orange.fr
Website: www.imapsfrance.org

WORKSHOP FEES INCLUDE: 2 nights Hotel, lunches and dinners from 30th January 8:00 pm to 1st February 2024 4:00 pm.

☐ SPEAKERS 480 VAT excluded (576 €* VAT)
☐ CHAIRS/TECHNICAL COMMITTEE 480 VAT excluded (576 €* VAT)

CONFERENCE ATTENDEES 2 DAYS

☐ IMAPS MEMBER (...................) 620 € VAT * excluded 744 € * VAT included
☐ IMAPS NON MEMBER 720 € VAT * excluded 864 € * VAT included
☐ Special Diet: ☐ Vegetarian ☐ Other ____________________________

CONFERENCE ATTENDEES 1 DAY

250 VAT €* excluded 300 €VAT included (lunch is included, no hotel room)

Please confirm your attendance to the first day dinner to be held on 30th January 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 28th January, latest

TOTAL FEES

VAT included : .................. Euros * No refund in case of cancellation.

* For foreign companies, VAT will not be charged. VAT excluded ............... Euros

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

IMAPS BANK REFERENCES

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 ________________________________________________________________________________
_________________________________________________________________________________________

Zip________________City___________________________________Country___________________________

Phone_____________________________________________Email____________________________________
HOW TO REACH DESTINATION OF CONFERENCE HOTEL

Hotel Mercure Vieux Port
Quai Louis Prunier
17000 La Rochelle - France
46°09'13.7"N 1°08'58.2"W

By Car:
- From Paris: A10 Highway + N11 estimated duration 5h00
- From Bordeaux: A10 + A837 Highway; estimated duration 2h00

By Airplane:
- Airport Bordeaux - Mérignac ([Arrivals and departures of the day | Bordeaux-Mérignac Airport])
- Airport Rochefort: ([La Rochelle - Ile de Ré airport: Flights, destinations & services])

By train:
- 14 trains per day from Paris
  - 15h35 Paris-Montparnasse - 18h13 La Rochelle (suggestion)
  - 16h19 Paris Airport CDG2 TGV Roissy – 20h27 La Rochelle (suggestion)
  - 16h59 La Rochelle – 19h34 Paris – Montparnasse (suggestion)
- 10 Trains per day from Bordeaux
  - 16h52 Bordeaux – 19h28 La Rochelle (suggestion)

Other possibilities from Nantes, Tours
NEXT IMAPS France EVENT:

MiNaPAD Forum 2024

11th Micro/Nano-Electronics Packaging and Assembly, Design and Manufacturing Forum

EXHIBITION & CONFERENCES

June 19th-20th

GRENOBLE France

Organized by
IMAPS - International Microelectronics Assembly and Packaging Society
17 rue de l'Amiral Hamelin - 75016 Paris - France
Tel: +33 (0) 7 88 75 59 86
imaps.france@orange.fr - www.france.imapseurope.org