



ADVANCED PROGRAM AND REGISTRATION FORM

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)

Germany:

Mohamad ABO RAS (NANOTEST)
Thomas HARDER (ECPE)

Poland

Boguslaw WIECEK (Łódź University of Technology, Institute of Electronics)

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 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 Lagier^{1,2}, Frédéric Boudesseul^{1,3}

(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 Kałuża, Robert Olbrycht, Dmytro Levchenko, Bogusław Więcek

(Łódź 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, Seibersdorf, 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)

04.20 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.



1st February 2024 (Thursday)

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 Zhong](#)¹, [Vishweshwara Shanbhog](#)², [Álvaro Andrés](#)³
(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. Marie](#)¹, [J. Hélie](#)², [JP. Fradin](#)¹, [F. Fabre](#)²
(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.

<input type="checkbox"/> SPEAKERS	480 VAT excluded (576 €* VAT)
<input type="checkbox"/> 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-Merignac Airport](#))
- Airport Rochefort : ([La Rochelle - Ile de Ré airport: Flights, destinations & services](#))

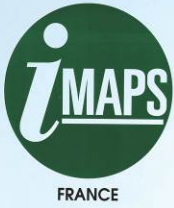
By train:

La Rochelle station : <https://www.sncf-connect.com/en-en/>

- 14 trains par 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

WORLD TRADE CENTER
CHAMBRE DE COMMERCE & D'INDUSTRIE DE GRENOBLE



Organized by

IMAPS - International Microelectronics Assembly and Packaging Society

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