



STREAMS

Smart Technologies for eneRgy Efficient Active cooling in Advanced Microelectronic Systems



H2020-ICT-2015-688564

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Smart Technologies for eneRgy Efficient Active cooling in advanced Microelectronic Systems

Start date of the project: 01/01/2016
Duration: 42 months

Deliverable D7.6

Workshop organization

WP	7	Exploitation & Dissemination
Task	7.2	Workshop organization

Dissemination Level¹	PU
Nature²	O

Due Delivery Date	M33
Actual Delivery Date	06/11/2018

Lead beneficiary	UdL
Contributing beneficiaries	All
Author	Jérôme Barrau

¹ Dissemination level: **PU** = Public, **PP** = Restricted to other programme participants (including the Commission services), **RE** = Restricted to a group specified by the consortium (including the JU), **CO** = Confidential, only for members of the consortium (including the Commission services).

² Nature of the deliverable: **R** = Report, **D** = Demonstrator, **O** = Other.

Document version	Date	Author	Comments³
v1	22/10/2018	Jérôme Barrau (UdL)	Final version for evaluation

³ Creation, modification, final version for evaluation, revised version following evaluation, final.

Deliverable abstract

This deliverable presents the main characteristics and outputs of the STREAMS Workshop. It is related to Task 7.2 “Workshop Organization”.

This deliverable is not a “report”-type deliverable and is just destined to resume the main impacts of the workshop, developed finally in the format on 2 specific STREAMS sessions within the 24th THERMINIC Workshop (International Workshop on Thermal Investigation of ICs and Systems, Stockholm, September 26-28, 2018).

Table of content

1 – DESCRIPTION OF THE ACTIVITY 5

 1.1 – GENERAL INFORMATION 5

 1.2 – TECHNICAL INFORMATION 6

2 – IMPACT OF THE ACTIVITY 7

3 – CONCLUSIONS 8

1 – Description of the activity

1.1 – General information

In order to increase the impact of the planned summer school, the STREAMS consortium decided, in agreement with the Project Officer, to change its location and to integrate it within a dedicated workshop or congress. The consortium focused finally on the THERMINIC workshop (International Workshop on Thermal Investigation of ICs and Systems, Stockholm, September 26-28, 2018).

Historically, this event groups the main thermal management actors in the field of microelectronics from Europe. Moreover, in the last year, the number of non UE participants has increased. These characteristics made it ideal to present and diffuse the main results obtained within the STREAMS project.

As THERMINIC had previous experiences with other EU funded projects, it has been easy to agree about the format of the collaboration. Two STREAMS specific sessions of 3 talks each have been included in the program.

Finally, and also with the objective of making more visible the project, STREAMS became a partner of THERMINIC 2018.

The homepage of the THERMINIC workshop, with the STREAMS logo on it (as a partner), is presented in Figure 1.

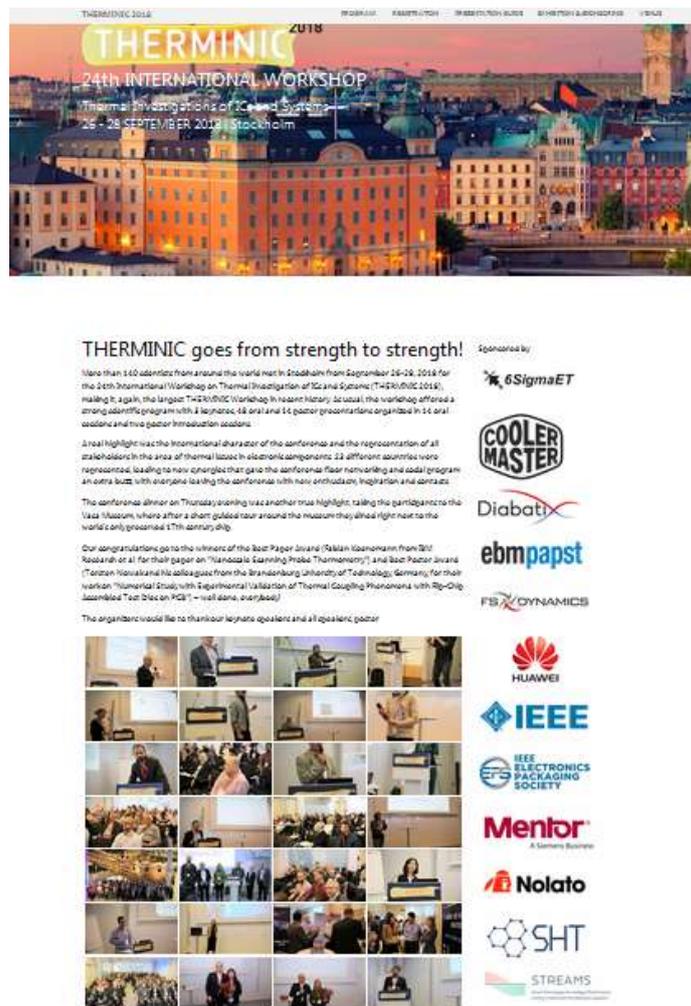


Figure 1 – Illustration of the Home page of the THERMINIC Website (<https://therminic2018.eu/>).

The resume of the THERMINIC Workshop, presented now in its website and reproduced here below, shows the main characteristics of the community present at the event:

“More than 140 scientists from around the world met in Stockholm from September 26-28, 2018 for the 24th International Workshop on Thermal Investigation of ICs and Systems (THERMINIC 2018), making it, again, the largest THERMINIC Workshop in recent history. As usual, the workshop offered a strong scientific program with 3 keynotes, 48 oral and 14 poster presentations organized in 14 oral sessions and two poster introduction sessions.

A real highlight was the international character of the conference and the representation of all stakeholders in the area of thermal issues in electronic components. 23 different countries were represented, leading to new synergies that gave the conference floor networking and social program an extra buzz, with everyone leaving the conference with new enthusiasm, inspiration and contacts.”

1.2 – Technical information

The conference program is available at:

<https://www.conftool.com/therminic2018/sessions.php>

The two STREAMS specific sessions have been programmed the first day of the workshop (26th of September). The first one was oriented to the general overview of the project and to the STREAMS thermoelectric functionalities. In the second one, the works focused on the different aspects of the cooling solution developed in the project. The detailed programs of these two sessions are presented in Figures 2 and 3.

The screenshot displays the '24TH INTERNATIONAL WORKSHOP THERMAL INVESTIGATIONS OF ICs AND SYSTEMS 26-28 SEPTEMBER 2018 | STOCKHOLM' website. The page includes a 'Login' button and 'Conference Time: 22/Oct/2018 6:26:29 pm CEST'. Under the 'Conference Agenda' section, there are filters for 'Show Downloads', 'Authors', and 'Print View with Header', along with a search box for 'Name, Title...'. The 'Session Overview' section lists the following session:

S_02B: Special Session on the STREAMS project I
 Time: Wednesday, 26/Sep/2018: 3:50pm - 4:50pm
 Location: Room Bill
 Session Chair: Guillaume Savelli, CEA-Liten

The 'Presentations' section lists three topics:

- H2020 European Project STREAMS: General Overview**
 Jean Colonna¹, Agnes Royer¹, Guillaume Savelli², Perceval Coudrain³, Matthias Keller⁴, Luc Fréchette⁵, Louis-Michel Collin⁵, Sophie Billat⁶, Jérôme Barrau⁷, Yiannos Manoli⁴
¹Université Grenoble Alpes, CEA Leti, France; ²Université Grenoble Alpes, CEA Liten, France; ³STMicroelectronics, Crolles, France; ⁴University of Freiburg, IMTEK, Freiburg, Germany; ⁵Université de Sherbrooke, UMI-LN2, Sherbrooke, Canada; ⁶Hahn Schikard Gesellschaft, Institut für Mikro und Informationstechnik, Villingen-Schwenningen, Germany; ⁷Universitat de Lleida, Lleida, Spain
- Integrated Thermoelectric Sensors for Thermal Monitoring of Integrated Circuits**
 Guillaume Savelli¹, Jean-Philippe Colonna², Pascal Faucherand¹, Daniel Wendler³, Yiannos Manoli³, Matthias Keller³
¹Univ. Grenoble Alpes, CEA-Liten, France; ²Univ. Grenoble Alpes, CEA-Leti, France; ³Univ. Freiburg, IMTEK, Germany
- Embedded Thermal Energy Harvesting – Challenges & Opportunities**
 Matthias Keller¹, Jacob Goepfert¹, Yiannos Manoli¹, Guillaume Savelli², Jean-Philippe Colonna³, Pascal Faucherand², Louis-Michel Collin^{4,5}, Luc Fréchette^{4,5}
¹University of Freiburg – IMTEK, Freiburg, Germany; ²Université Grenoble Alpes, CEA-Liten, Grenoble, France; ³Université Grenoble Alpes, CEA-Leti, Grenoble, France; ⁴University of Sherbrooke, Sherbrooke, Canada; ⁵CNRS, UMI, Lyon, France

Figure 2 – Program of the 1st STREAMS specific session.

THERMINIC 2018
24TH INTERNATIONAL WORKSHOP
THERMAL INVESTIGATIONS OF ICS AND SYSTEMS
26-28 SEPTEMBER 2018 | STOCKHOLM

Login Conference Time: 22/Oct/2018 6:28:06 pm CEST

Conference Agenda

Overview and details of the sessions of this conference. Please select a date or location to show only sessions at that day or location. Please select a single session for detailed view (with abstracts and downloads if available).

Show Downloads Authors Print View with Header

Session Overview

Session

S_03B: Special Session on the STREAMS project II
 Time: Wednesday, 26/Sep/2018: 4:50pm - 5:50pm Location: Room Bill
 Session Chair: Jérôme Barrau, University of Lleida

Presentations

Thermoregulated Microvalve for Self-Adaptive Microfluidic Cooling
 Amrid Amnache¹, Louis-Michel Collin¹, Gerard Laguna², Montse Vilarrubi², Jérôme Barrau², Luc Guy Fréchette¹, Simon Hamel¹
¹UMI-LN2, Université de Sherbrooke, 2500, boul. de l'Université, Sherbrooke (Québec), Canada, J1K 2R1; ²Universitat de Lleida, Pl. de Víctor Siurana, 1, E-25003 Lleida, Spain

Variable Pumping Control for Low Power Microfluidic Chip Cooling
 Sabrina Da Luz¹, Gherard Kattinger¹, Gerard Laguna², Hassan Azarkish³, Montse Vilarrubi², Louis Michel Collin³, Luc Fréchette³, Jérôme Barrau², Sophie Billat¹
¹HSG, Germany; ²University of Lleida, Spain; ³UMI-LN2, Université de Sherbrooke, Canada

Thermostatic Fins for Spatially and Temporally Adaptive Microfluidic Cooling
 Montse Vilarrubi¹, Gerard Laguna¹, Amrid Amnache², Louis Michel Collin², Joan Rosell¹, Manel Ibañez¹, Josep Illa¹, Luc Fréchette², Jérôme Barrau¹
¹University of Lleida, Spain; ²UMI-LN2, Université de Sherbrooke, Canada

Figure 3 – Program of the 2nd STREAMS specific session.

All the STREAMS partners have been involved in the sessions.

2 – Impact of the activity

Through the two STREAMS specific sessions, the partners had the opportunity to share with the community the innovative solutions developed. The consortium estimates that the number of attendees was about 50 people (Figure 4). Furthermore, a high interest has been promoted, confirmed by both the elevated number of questions at the end of the talks and the prolonged discussions after the sessions.

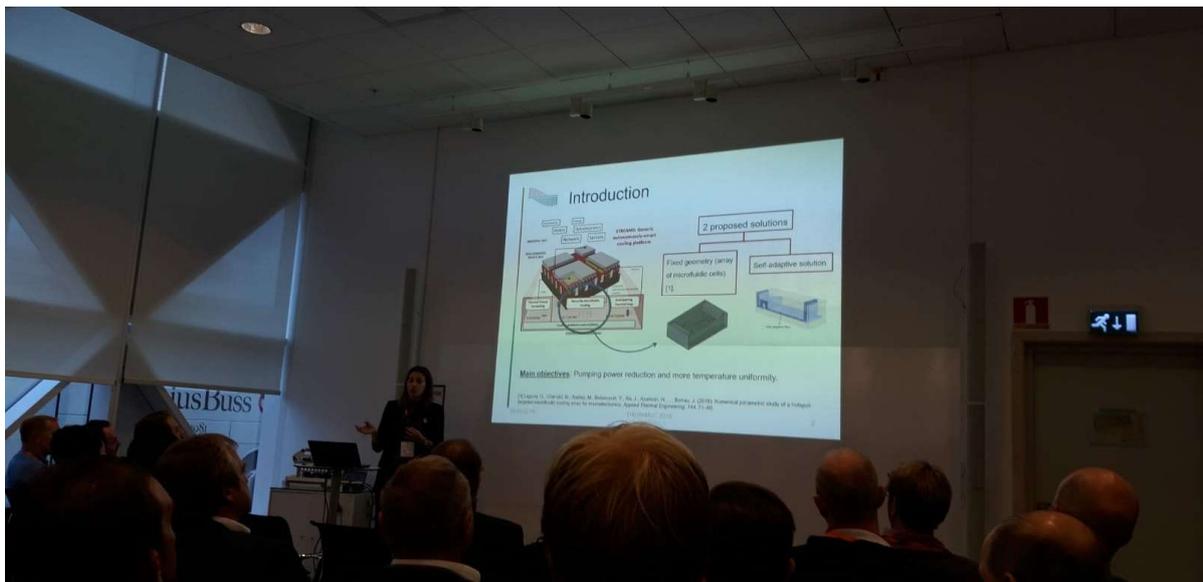


Figure 4 – Pictures of the 2nd STREAMS specific session.

Furthermore, four of the six talks will be published by THERMINIC organization and indexed in SCOPUS in the next months.

3 – Conclusions

The STREAMS consortium estimates that the decision, agreed by the European Commission, to move the summer school from an isolated event to a recognized workshop has been a success. Indeed, it allowed increasing the short and mid-term impacts of this diffusion activity by making visible the different developments carried out in the project to the major actors of the sector, both the scientific community and the large number of companies present at the event.