

PHENOMEN PROJECT: All-Phononic Circuits Enabled by Opto-mechanics

Research & Innovation Action Project
Grant Agreement # 713450

Start Date: 1st September.2016
Duration: 36 months

PARTNERS: ICN2 (Coordinator), CNR, VTT, UPV, USTL, UNIVPM, MENAPIC

WP4: Management & Dissemination

Deliverable D4.6 v.2

Kick-off Meeting

Due date of deliverable: M2

Deliverable leader: ICN2

Submission date: M2

Dissemination level: Confidential

References

	Name	Partner	Date
Prepared by:	C. Morales	ICN2	25/Oct/2016
Approved by:	C. Sotomayor	WP4 Leader	4/Nov/2016
Approved by:	C. Sotomayor	Project Coordinator	4/Nov/2016


Change Record History

Revision Letter	Date	Page Number	Description
Version 1	25/Oct/2016		Initial Version
Version 2	7/Nov/2016		Version 2

1. Description of the deliverable

Researchers representing each partner from the PHENOMEN consortium, the project manager from ICN2 and the coordinator of the project, met on September 16th 2016, in the ICN2 premises (Bellaterra, Barcelona, Spain) to discuss the topics included in the agenda of the Kick-off meeting (see point 2.).

2. Agenda of the meeting



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 713450

PHENOMEN

Phononic circuits Enabled by Opto-mechanics

H2020-FETOPEN-2014-2015-RIA (GA # 713450)

Kick-off meeting draft agenda

Date: 16th September 2016. **Venue: "Auditorium", ICN2 Building, Bellaterra**

Thursday – September 15th, 2016

21:00 Social Event: Consortium Dinner (Restaurant TBC, Sant Cugat) (C. Morales)

Friday – September 16th, 2016

9:00 Welcome & Introductions

- Presentation by the Coordination (C. Sotomayor & C. Morales)

9:15 Project Presentation (C. Sotomayor)

9:35 Update on the state of the art outside the consortium

- Reference to all technical tasks in Phenomen (Tasks Leaders- slides, results, figures and references)

10:15 Partner presentation and role in PHENOMEN

- Partners introduce their teams, any recent progress in last 12 months and role in project. (maximum 7 minutes)
 - ICN2 (D. Navarro)
 - USTL (B. Djafari-Rouhani)
 - CNR (A. Pitanti)
 - UNIVPM (L. Pierantoni)
 - VTT (J. Ahopelto)
 - MENAPIC (P. Emery)
 - UPV (A. Martinez)

11:05 Coffee Break at the ICN2 Garden

11:30 Project Management

- Project Coordination & Management (C. Morales)
- Financial Guidelines & Financial Reporting (M. Corominas)

12:45 Lunch at the ICN2 Garden

14:15 Overview of the project timeline

- Reporting periods, deliverables, milestones, approval of meetings calendar (C. Morales)

14:45 Work Package Planning (WP presentations)

- Planning of Technical Work: Period M1-M12 (WP Leaders please planning in slides to share). Distribution of tasks, exchanges, joint research, internal WP Coordination, telephone conferences, etc., deadlines and deliverables.

15:15 Coffee Break at the ICN2 Garden

14:45 Work Package Meeting (Cont.)

16:15 Planning, Dissemination and Exploitation work (Menapic).

- All- bring conference/event diary to cross check)

16:45 AOB Any Other Business

17:00 Meeting ends

How to reach ICN2: <http://icn2.cat/en/contact>

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Figure 1: PHENOMEN Kick-off Meeting agenda

3. Attendees

Dr. Bahram Djafari-Rouhani (USTL)
Dr. Yan Pennec (USTL)
Dr. Luca Pierantoni (UNIVPM)
Dr. Patrick Emery (MENAPIC)
Dr. Amadeu Griol (UPV)
Dr. Alejandro Martínez (UPV)
Prof. Dr. Jouni Ahopelto (VTT)
Dr. Alessandro Pitanti (CNR)
Dr. Daniel Navarro (ICN2)
Prof. Dr. Clivia Sotomayor Torres (ICN2)
Cristina Morales (ICN2)
Apologies: Dr. Arnaud Devos (MENAPIC).

Other attendees to the meeting:




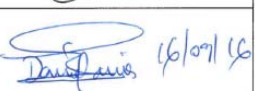
Dr. Francesc Alzina (ICN2)
Dr. David García (ICN2)
Dr. Marianna Sledzinska (ICN2)
Martín Colombano (ICN2)
Alex Argemí (ICN2)
Marc Corominas (ICN2)
Laura Mercadé (UPV)

PHENOMEN







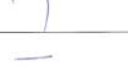
Barcelona: Kick-off Meeting
15/16.September.2016

Attendants list





Location: ICN2 Building
08193 – Bellaterra (Barcelona) SPAIN

Attendants		
Organisation	Name	Signature/Date
ICN2	Clivia M. Sotomayor Torres	 16/09/16
ICN2	Daniel Navarro	 16/09/16
ICN2	Francesc Alzina	 16/09/16
ICN2	David Garcia	 16/09/16

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UPV	Amadeu Griol	
UPV	Laura Mercader	
USTL	Bahram Djafari-Rouhani	
USTL	Yan Pennec	
UNIVPM	Luca Pierantoni	
MENAPIC	Patrick Emery	
MENAPIC	Arnaud Devos	

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ICN2	Marianna Slezinska	
ICN2	Martin Colombano	
ICN2	Cristina Morales	
ICN2	Marc Corominas	
ICN2	Alex Argemi	
CNR	Alessandro Pitanti	 Ale. Pitanti
VTT	Jouni Ahopelto	
UPV	Alejandro Martinez	

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Figure 2: PHENOMEN Kick-off Meeting Attendants List

The details concerning the individual points listed below can be found in the slides of each of the presentations that will be available in the PHENOMEN website.

4. Round of presentations

Each attendant gave a brief presentation of himself/herself.

5. Discussion

Welcome & Project Presentation: Introduction to PHENOMEN Project, history, background and project structure

Prof. Dr. Clivia Sotomayor Torres, Coordinator of the Project, opened the meeting and welcome the participants.

Prof. Sotomayor explained the framework of the project since the proposal was submitted one year ago. She reviews the project concept that will be developed during the meeting, as well as the history of ITRS technology.

http://phenomen-project.eu/kickoff-meeting/20160916_Coordinator_PPT.zip

State of the art outside the Consortium

During her presentation, Prof. Sotomayor highlights the state-of-the-art on ITRS technology and reviews some concepts and data that are obsolete from the proposal submission, these concepts will be reviewed in the first Project Review Meeting and frequently during the life of PHENOMEN project.

Partner presentations and role in PHENOMEN

Technical presentation by Dr. Daniel Navarro (ICN2), Dr. Alessandro Pitanti (CNR), Dr. Jouni Ahopelto (VTT), Dr. Alejandro Martínez (UPV), Dr. Yan Pennec (USTL), Dr. Luca Pierantoni (UNIVPM) and Dr. Patrick Emery (MENAPIC).

Each partner gave a presentation covering the following items:

- Institution presentation.
- Group presentation.
- Institution main tasks review for PHENOMEN project.
- Review of the state-of-the-art concerning the main tasks.
- Recent results of the partner concerning the main tasks.

The presentations can be found at:

http://phenomen-project.eu/kickoff-meeting/20160916_Partners_presentations.zip

Project Management. Dissemination & Communication.

Presentation by Cristina Morales (ICN2 Phononic and Phononics Nanostructures Group Project Manager). Review of the overall objectives of WP4.

The following points were presented:

- Project structure/Project lifecycle
- CA/GA of the project: signed. Modifications from the proposal submitted.

- External Advisory Board: an External Advisory Board must be created for PHENOMEN project. The partners will provide suggestions and the final composition of the EAB will be discussed during the first Project Meeting.
- Project reporting obligations
- Reporting periods

RP1: From M1 to M12

RP2: From M13 to M36

- Project Meetings. Contractual meetings + 3 face to face meetings will be performed during the life of the project. Two proposal dates for each of the next two Project Meetings were agreed among the Attendants. These will be voted and confirmed to establish the final dates and include in the calendar of meetings. Locations were also agreed: 1st Project Meeting will take place in Lille (organized by USTL) and 2nd Project Meeting will take place in Helsinki (organized by VTT).
- Dissemination actions. Planning of the organization of scientific events for dissemination and training. It was agreed to contribute with 3 presentations to the European Science Open Forum 2018.
- Exploitation Plan.

The presentation (includes financial management presentation) can be found at:

http://phenomen-project.eu/kickoff-meeting/20160916_Management_Finance.zip

Communication

Presentation by Alex Argemí (ICN2 Marketing & Communication responsible). The following points were presented:

- Presentation of the project webpage. The repository of the information will be in the private part of the webpage. This will include the administrative documents but also literature.
- Presentation of the project logo.
- Communication strategy.

A press-release will be launched after the meeting.

http://phenomen-project.eu/kickoff-meeting/20160916_Communication.zip

Financial Management

Presentation by Marc Corominas (ICN2 Projects Group). The following points were presented:

- Financial guidelines
- Financial reporting (project reporting obligations): principles, reporting, financial statements, use of resources, timesheets, CFS, payment and cash flow.

The slides used by C. Morales and M. Corominas will be sent to the partners by email and be placed in the project internal section once up and running .

Technical WP Presentation

WP Planning: Due to the fast development in the field of optomechanics, Prof. Sotomayor points out that the ideas described in the project proposal, which were conceived 12 months ago, must be updated accordingly to the current state-of-the-art. She suggests that in 12 months the consortium should be

prepared to submit a new innovative proposal including the result of those new ideas, e.g. topological optomechanics.

WP1. Presentation by Yan Pennec (USTL – Leader of WP1)

The following points were presented:

- Description of WP1: objectives, tasks, participants, efforts per partner.
- Deliverables & milestones of WP1.
- Description of the tasks and role(s) of participant partners. Main points:

Numerical tools. The presentation opened a discussion about the numerical tools to be used. USTL will be concentrated in Finite Elements Method solvers while UNIVPM will be concentrated in Finite Difference Time Domain solvers.

Discussion on the design of the Optomechanical cavities as mechanical coherent signal sources. The chosen design is based on a unit-cell with a hole in the middle a two stubs on the sides. An optimization of the optomechanical coupling will be performed.

Discussion on how to suppress contribution from extended flexural modes. Different strategies were discussed, the chosen one being to include clamped tethers on the sides of the beam.

Phonon propagation. Pros and cons of the use of 2D phononic crystal waveguides or 1D phononic beams to extract and propagate the coherent mechanical signal.

WP2. Presentation by Alessandro Pitanti (CNR – Leader of WP2)

The following points were presented:

- Description of WP2: objectives, tasks, participants, efforts per partner.
- Deliverables & milestones of WP2.
- Description of the tasks and role(s) of participant partners. Main points:

To develop and optimize detector from the beginning of the project, surface acoustic wave excitation has to be implemented. The detection will be done with an optomechanical nanobeam, which is the structure to be optimized during this study. An investigation on the kind of substrates that may be suitable for these experiments has to be performed in the first months of the project. Piezoelectric substrates such as GaAs and LiBO₃ are two possibilities.

Once the phonon sources and waveguides in Silicon will be ready, the detector will be integrated.

WP3. Presentation by Alejandro Martínez (UPV – Leader of WP3)

The following points were presented:

- Description of WP3: objectives, tasks, participants, efforts per partner.
- Deliverables & milestones of WP3.
- Description of the tasks and role(s) of participant partners. Main points:

The discussion involved the issue of light coupling into the optomechanical cavities (sources and detectors). During the first months of the project, efforts will be concentrated in integrating light coupling in the chip. Two configurations will be investigated: lateral evanescent coupling by a parallel waveguide and direct in-line coupling.

The other tasks considered in WP3 rely on the successful developments of tasks corresponding to the WP1 and WP2.

The presentations can be found at:

http://phenomen-project.eu/kickoff-meeting/20160916_WP.zip

6. Conclusion

The kick-off meeting was successful in fulfilling its scopes. The project proposal was reviewed thoroughly and critically analysed. Several critical decisions were taken. This allowed a smart division and prioritization of the tasks, so that those can be performed efficiently from the beginning.

7. Conclusion

The dates for the next two project meetings were checked and soon after the meeting these are confirmed as:

1st Project Meeting: Lille (France) 23-24/January/2017

2nd Project Meeting: Helsinki (Finland) 4-5/May/2017