

ACTIVITY REPORT

3rd Grant Period

Cost Action	CA20126 (NetPore)	Period
Chair	Lluís Marsal	01/11/2023 - 31/10/2024
Document written by	Núria Fernández	

OUTLINE OF ACTIVITIES

1.	1 st NETPORE Workshop – Louvain-la-Neuve (Belgium)	4
2.	CG Meeting 1 (virtual).....	8
3.	CG Meeting 2 (virtual).....	11
4.	CG Meeting 3 (virtual).....	13
5.	1 st NetPore Winter School – Tunin (Italy)	17
6.	CG Meeting 4 – Bucharest (Romania)	22
7.	2 nd NETPORE Workshop - Bucharest (Romania)	23
8.	2nd NetPore Industry Workshop (3) – Tarragona (Spain)	26
9.	CG Meeting 5 – Ankara (Türkiye).....	29
10.	3 rd Summer Training School – Ankara (Türkiye).....	30
11.	CG Meeting 6 (virtual).....	32
12.	CG Meeting 7 (virtual).....	33
13.	CG Meeting 8 – Ljubljana (Slovenia)	34
14.	4 th NETPORE Workshop – Ljubljana (Slovenia)	35

AWARDED GRANTS

MOBILITY GRANTS	CONFERENCE GRANTS
18 STSM	14 ITCCG
	3 DCG



ACTIVITIES

1. 1st NETPORE Workshop – Louvain-la-Neuve (Belgium)

Date	09/11/2023 – 10/11/2023
Location	Aula Magna à Louvain-la-Neuve
Participants	22
Organizer	Laurent Francis & Frederique Cunin

Workshop highlights

The 1st Workshop of this Period has been co-organized with 6th Journées SCOPe 2023 – Semi-Conducteurs et Oxydes Poreux.

The objective of these conference days is to bring together the European actors involved in research on porous semiconductors and oxides and their applications. The conference was opened giving priority to NetPore membres.

Topics:

- Development, manufacturing techniques, structures
- Luminescence and photonics
- Microelectronics
- Systems and integration
- Functional coatings
- Sensors
- Photovoltaic
- Electrode materials, energy, conversion, storage
- Medical imaging, therapy

PROGRAM

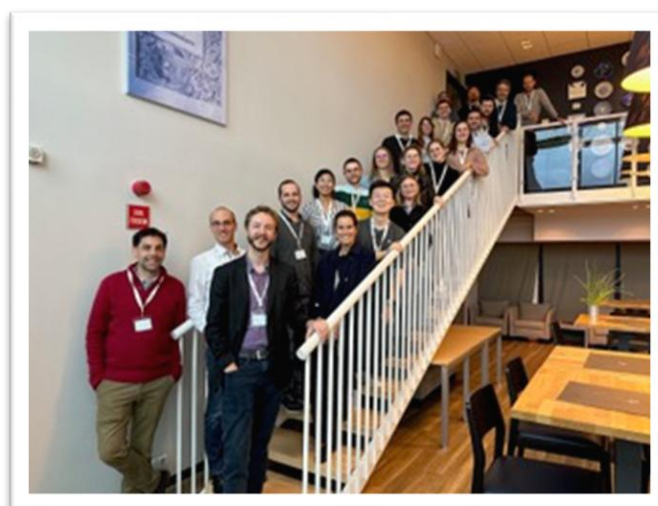
Thursday - NOVEMBER 9 th	
8:30 – 9:00	Welcome to the participants
9:00 – 9:30	Opening – NetPore presentation
9:30 – 10:30	Julien Bachmann “ <i>Systematic build of a macroporous model system to test the inherent activity of SCALMS catalysts</i> ”
10:30 – 11:00	Coffee break
11:00 – 12:00	Oral Session 1
LUNCH TIME	
13:30 – 14:30	Roselien Vercauteren “ <i>Porous silicon membranes and their application to indirect bacterial detection</i> ”
14:30 – 15:30	Oral Session 2
15:30 – 16:30	Coffee break
16:00 – 17:00	Gilles Scheen “ <i>Post-fab porosification : Challenges and advances</i> ”
17:00 – 18:00	Lab and facilities visit
19:00 - SOCIAL DINNER	
Friday - NOVEMBER 10 th	
9:00 – 10:00	Helder Almeida Santos “ <i>Porous silico-based nanoparticles for boosting cancer antitumor immunity and mitochondria-targeting for reactive oxygen species generation</i> ”
10:00 – 10:30	Oral Session 3
10:30 – 11:00	Coffee break
11:00 – 12:00	Stephane Bastide “ <i>Photo/electrooxidation of urea in urine for wastewater treatment and hydrogen production</i> ”
12:00 – 12:30	Oral Session 4
12:30 – 13:00	Assemblée Générale SCOPe / NetPore
LUNCH TIME	
14:00 – 18:00	Bruxelles visit (Optional)
END OF THE WORKSHOP	

Oral Sessions

Session 1	Constrained formation of porous silicon through polymeric masks Lisa Monnier , <i>Interfaces, Confinement, Matériaux et Nanostructures, GREMAN (matériaux, microélectronique, acoustique et nanotechnologies)</i>
	Effective temperature of porous silicon substrates in LDI-MS in function of etching parameters - Bastien Cabrera-Tejera , <i>Mass Spectrometry Laboratory, ULiège - Romain Tuyaerts, Incize</i>
	Functionalization of porous silicon for the detection of dimethyl methylphosphonate (DMMP), a Sarin simulant, by FT-IR and SALDI-MS - Yannick Coffinier , <i>Institut d'Électronique, de Microélectronique et de Nanotechnologie (IEMN) - UMR 8520</i>
	Increase of the SERS signal from Gold nanospheres in porous Silicon - Clémentine Gevers , <i>UCLouvain</i>
Session 2	Effet de l'oxydation sur les propriétés optiques d'un guide d'onde ridge à base de silicium poreux dans le moyen infrarouge - Abdallah Jaafar , <i>Université de Rennes, CNRS, Institut Foton</i>
	Pencil shape pores in Porous Silicon membrane toward improved efficiency in reverse electro dialysis energy harvesting system - Hanus Romain , <i>Institute of Information and Communication Technologies, Electronics and Applied Mathematics</i>
	2-photon light assisted therapies with porous silicon nanoparticles - Frederique Cunin , <i>Institut Charles Gerhardt UMR 5253, Balard Recherche, Pôle Chimie, ICGM UMR 5253, 1919 Route de Mende, 34293 Montpellier Cedex</i>

Session 3	Elaboration of nanoneedle arrays via nanosphere lithography and single step continuous ICP etching. Application for detections of neurodegenerative diseases' biomarkers by mass spectrometry - Paul MOUSTIEZ , <i>NanoBioInterfaces - IEMN</i>
	Study of therapeutic effects of two-photon controlled gene delivery with nanoparticles in uveal melanoma using organoid models - Emilie Lambert , <i>Institut Charles Gerhardt UMR 5253, Balard Recherche, Pôle Chimie, ICGM UMR 5253, 1919 Route de Mende, 34293 Montpellier Cedex</i>

Session 4	Bacterial contamination detection in Water and milk samples with porous Si immunosensor coupled with a rapid catalytic signal amplification - Divagar Muthukumar , <i>Agricultural Research Organisation</i>
	Improvement of OER at Structured Si Electrodes Covered by Fe ₂ O ₃ /IrO ₂ /TiO ₂ Thin Layers Grown by ALD - Lionel Santinacci , <i>Aix Marseille Univ, CNRS, CINaM, Marseille</i>



2. CG Meeting 1 (virtual)

Date	01/12/2023
Location	Online (Teams)
Participants	7
Organizer	Lluís Marsal

Meeting highlights

- Review of new WG applications: 11
- Resume of the 24-month Progress Report: strong and weak points, improvement proposals.
- Resume of the Final Financial Report
- List and short description of the 3rd Grant Period activities
- New proposals for grant calls

Resume of the Progress Report

Main Points to improve:

- Roadmap (we need a document/draft of the first version as soon as possible).
- Increase dissemination, social media activity.
- Organize the participation list of the events earlier to adjust better the budget.
- Increase the feedback of all participants regarding their publications. We could disseminate and publicize in the website recent published articles, new projects, jobs offers, etc.
- Intensify the contact with companies.
- Acknowledge NetPore in some papers resulting from collaboration even if there is no funding.
- We need to present 4 patents and 2 fully functional prototypes are expected at the end of the Action.
- Need to engage more end-users.

Difficulties implementing the Action:

- MC members not very participative.
- Delays responding e-mails.
- Payment deadlines – University matters and delays on participants claims

Endangerment measures:

- Intensify the communication channels.
- Engage the junior leaders to manage the group: compile information about the activities that could be on-going within their WG.
- Promote STSM with companies.
- Encourage all members of the network in the dissemination task.
- Keep the NetPore Website constantly updated.

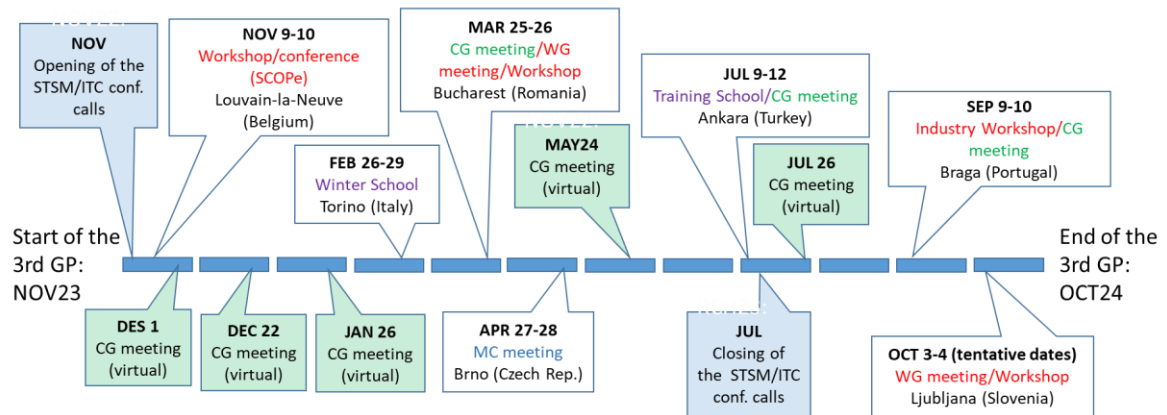
CG proposal:

- CG and WG leaders will help disseminating the Action actively, reactivating X account.
- Intesify the tracking of the Action work.
- Close the participation lists to the events earlier to ensure the participation calculated to each event.

Resume of the Final Financial Report (Comments)

	Budget deviation	Comments
Meetings	-25.4%	Low participation in person
Training Schools	+13.8%	
STSM	-16.8%	2 grants lost (refused)
Conference Grant	-	
Dissemination Products	+107.4%	From remaining balance
OERSA	-100%	Not claimed
TOTAL	-12.9%	

3rd Grant Period Activities



New proposals for Grant calls

New proposals to solve the low demand of the Grants:

- Keep the calls permanently opened. Revisions every 2 month (5 grants Dec, 5 on Feb and nonspent budget on April)
- Re-grant participants of past Periods if the evaluation is positive.
- For the Dissemination Conference Grants, some slides about NetPore should be included. The Slides will be provided to the awarded participants.

Decisions

- ✓ WG applications were approved.
- ✓ The CG approve the measures proposed to improve the weak points detected in the last 2 Grant Periods.
- ✓ Grants will be review and approved following the timings described in this document.
- ✓ The Dissemination Conference Grants will be awarded to participants that could provide enough information about the network.

3. CG Meeting 2 (virtual)

Date	22/12/2023
Location	Online (Teams)
Participants	8
Organizer	Lluís Marsal

Meeting highlights

- Review of new WG applications: 2
- Roadmap working plan
- Plan for communication and dissemination activities
- Engage Junior Leader on the Roadmap helping with the data collection of groups
- Include NetPore acknowledgement in all collaborative publications
- Highlight the importance of the science communication plan written document
- NetPore Workshop in Bucharest re-schedule.

Roadmap working plan

- Choose a coordinator for this activity.
- Create a specific working group to manage all the members information and develop this manuscript.
- Tentative outline no longer than January.
- Send to all members a reminder to update their profiles in NetPore Website

Communication and dissemination plan

- Choose a junior leader for WG5 that manages all NetPore accounts.
- Choose a person who keeps the NetPore Website updated, this person should be in constant contact with Antonio (from Phantoms): News, other events (external conferences info), jobs offers, publications, etc.
- Create a specific Core Group within WG5 for all the staff commented above.
- Ask STSMs participants to record a short video (3min) about their experience.

Decisions

- ✓ New 2 applications have been revised and approved.
- ✓ After the presentation of the Outline of the Roadmap, the CG will choose a coordinator next CG meeting.
- ✓ WG5 leader will re-activate the X account and will find and propose a junior WG leader for the next CG meeting.
- ✓ Create a position of website manager.
- ✓ Create working group within the WG5 to work directly with the Leader.
- ✓ Dates for the next NetPore Workshop in Bucharest has been moved to March 19-20.

4. CG Meeting 3 (virtual)

Date	26/01/2024
Location	Online (Teams)
Participants	7
Organizer	Lluís Marsal

Meeting highlights

- Review of new WG applications: 3
- Resume of the 24-month Progress Report Officers review
- Roadmap outline
- Winter School program
- Schedule of NetPore Workshop in Bucharest
- Modifications applied on the scheduled activities

Progress Report (24-month): Rapporteur evaluation

OUTCOMES, IMPACTS and SUCCESSES	
“Greatly progress achieving the objectives”	
	<ul style="list-style-type: none"> ○ Delivery of over 10 publications ○ 21 STSMs ○ 15 ITC conference grants ○ 6 dissemination conference grant ○ 2 International Trainings Schools ○ Dissemination activities have been very good.
	<ul style="list-style-type: none"> ○ Deliverables have been delayed. Need extra attention to ensure the continuation and compliance of the roadmap timeline.

MOU OBJECTIVES

“The rapporteur confirmed the level of progress reported”



- The level of ambition of the MoU objectives is HIGH.
- Most objectives are PROGRESSING APPROPRIATE.

DELIVERABLES

“Most deliverables are PROGRESSING APPROPRIATELY”.



- Situation scheme of mapping of competences: The delivery is confirmed. The quality of the data statistics is sufficient, although could be more comprehensive, especially on the industrial application

ADDITIONAL OUTPUTS/ACHIEVEMENTS

“The overall quality and quantity of the outputs and achievements are EXCELLENT”





- Co-authored Actions publications (more than 3 countries): Quality, significance, relevance and quantity are EXCELLENT.
- Projects and proposals: Relevance and quantity are VERY GOOD.
- Other outputs (Youtube channel, single articles, conference presentations and posters): GREAT RELEVANCE and quantity are VERY GOOD.

IMPACTS (other publications less than 3 authors, talks and posters)

“Multiple highly significant impacts are reasonably foreseen”: EXCELLENT”

DISSEMINATION

“All action activities focusing on dissemination of Action results were effective: VERY GOOD”

	<p>The overall dissemination is effective and provide good visibility of the Action</p>
	<p>It would be important to keep up with publication in social media</p>

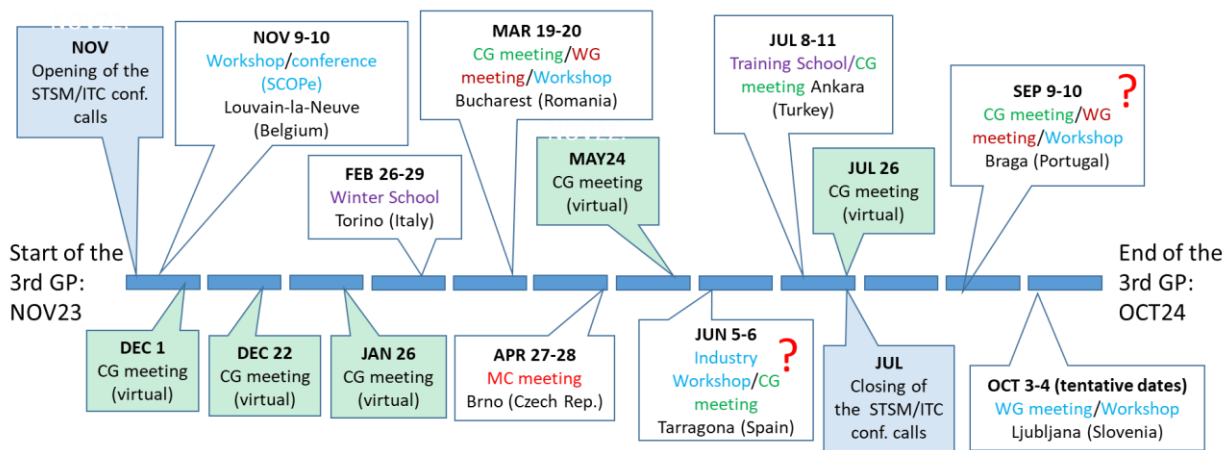
OTHER MATTERS

“A strict review throughout the next phases of the Action is therefore required to ensure all the bureaucratic compliance as well as the positive accomplishment of the agreed tasks”.

Roadmap outline (proposal)

1. Introduction / Vision and Objectives
2. Definitions (pores, types, ...)
3. Methodology (Basic TRL 1-2, Applied TRL 2-4, first Application TRL 3-4)
4. Expected Impact (science excellence, societal challenges, impact on KET, standards and regulation, security,...)
5. Challenges and market area
6. Global position (EU, Countries, ...)
7. Conclusions / Suggestions
8. Annex
 - a. Members (name, institution, web, email, country) from NetPore website
 - b. Map of the groups
 - c. Research topics

Modifications on the Activities schedule



- The Training School moved to start one day before as planned (July 9th) in the W&BP: dates changed to 8-11th of July.
- The Industry Workshop is proposed to be moved to June because of a better availability of the main companies we have contacted to. It is proposed to repeat the edition in Tarragona and co-locate the activity with NanoSpain conference.
- The event proposed in the WBP in Braga can be maintain as a regular Workshop/Working Group meeting if there is available budget at date.
- The last event in Ljubljana has not been confirmed yet by the Local Organizers.

Decisions

- ✓ New 3 applications have been revised and approved
- ✓ The outline of the Roadmap has been accepted
- ✓ List of participation and schedule of the Workshop in Bucharest
- ✓ Movement of the Industry Workshop to Tarragona in June 5-6
- ✓ Encode the event in Braga as a regular NetPore Workshop - WG meeting

5. 1st NetPore Winter School – Tunin (Italy)

Date	26/02/2024 – 28/02/2024
Title	Keys for porous material fabrication and their application fields
Location	Refuge “La Capanna” Claviere, Turin, Italy
Participants	17
Organizer	Luca Boarino, Nastacia De Leo & Frederique Cunin

School highlights

Trainers



Giuseppe Barillaro
University of Pisa (Italy)



Eleonora Cara
INRiM (Italy)



Ciro Chiappini
King's College London (UK)



Frederique Cunin
ICGM - CNRS (France)



Lars Dahne
Surflay Nanotec GmbH (Germany)



Luca De Stefano
CNR Napoli (Italy)



Ian Gilmore
NPL (UK)



Guido Mula
University of Cagliari (Italy)



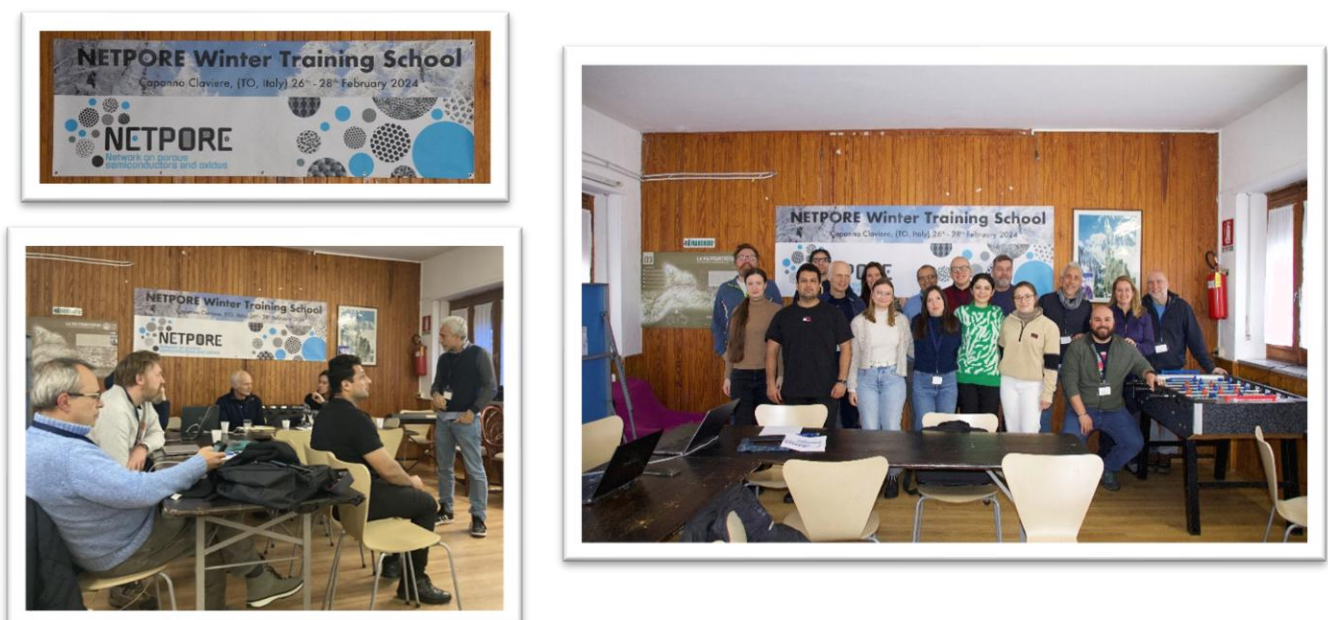
Jarno Salonen
University of Turku (Finland)

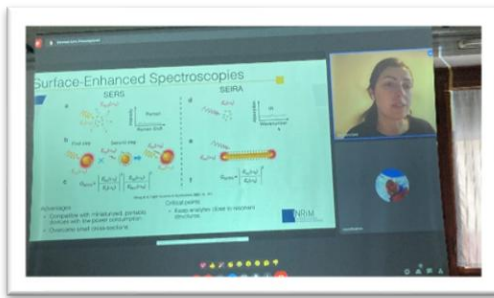
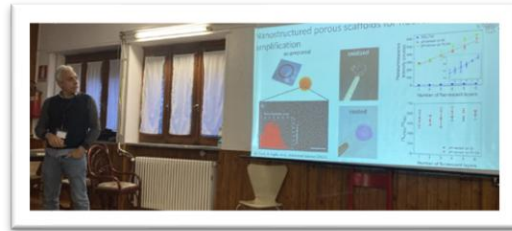
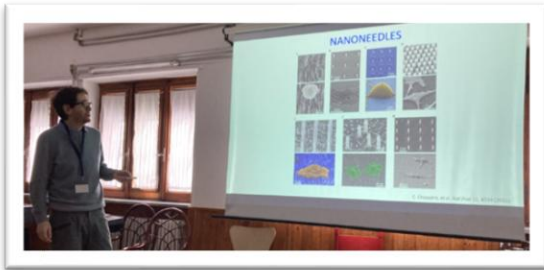
PROGRAM

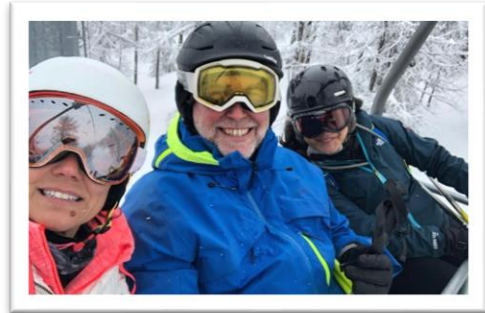
Monday - FEBRUARY 26 th	
9:00 – 12:30	Arrival and Registration
LUNCH TIME	
14:00 - 16:00	Free time + coffee break (15:45)
16:00 – 17:00	Frederique Cunin - CNRS, Montpellier, FR “WELCOME AND INTRODUCTORY LECTURE”
17:00 – 18:00	Giuseppe Barillaro – University of Pisa, IT “APPLICATION OF POROUS SILICON TO BIOSENSING”
WELCOME & DINNER	
Tuesday - FEBRUARY 27 th	
BREAKFAST (8:00)	
9:00 – 10:00	Jarno Salonen – University of Turku, FI “DRUG DELIVERY, NANOMEDICINE AND SENSING WITH POROUS SILICON”
10:00 – 11:00	Ian Gilmore - NPL, UK “MASS SPECTROMETRY IMAGING GIVES SIMULTANEOUS IDENTIFICATION OF DRUGS AND BIOMOLECULES AT THE MICRO AND NANOSCALE”
11:00 – 12:30	Scientific discussion
LUNCH TIME	
14:00 - 16:00	Free time + coffee break (15:45)
16:00 – 17:00	Eleonora Cara – INRiM, IT “POROUS SILICON NANOWIRES BY MACE AND SELF-ASSEMBLY”
17:00 – 18:00	Luca Destefano – CNR Napoli, IT “POROUS SILICON FOR DRUG DELIVERY”

18:00 – 19:00	Lars Dahne – Surflay Nanotech GmbH, D “SENSORS & BIOSENSORS LEVERAGING LAYER-BY-LAYER TECHNOLOGY ON DIFFERENT PLATFORMS”
DINNER & SOCIAL TIME	
Wednesday - FEBRUARY 28th	
BREAKFAST (8:00)	
9:00 – 10:00	Ciro Chiappini – King’s College, UK “APPLICATION OF POROUS SILICON TO NANOMEDICINE”
10:00 – 11:00	Guido Mula – University of Cagliari, IT “INFILTRATION OF POROUS SILICON BY ELECTROCHEMICAL METHODS”
11:00 – 12:30	Scientific discussion
LUNCH TIME	
14:00 - 16:00	Round Table
END OF THE SCHOOL	

Visual Recap







6. CG Meeting 4 – Bucharest (Romania)

Date	19/03/2024
Location	POLITEHNICA București National University for Science and Technology, Bucharest, Romania
Participants	8
Organizer	Anton Ficai & Lluís Marsal

Meeting highlights

- Review of new WG applications: 6
- Proposal of activities for the 4th GP to be presented in the MC meeting
- Location of the Industrial Workshop is changed together with NanoSpain 2024 to Tarragona (Spain) and the dates moved to June 5-6, 2024
- Dates of the Training School in Ankara were set on July 8-11. The program will be similar to past editions. Discussion about participation and speakers
- Science Officer informed about the possibility to get a top-up budget.

Top-up budget proposal

- **Industry Workshop** to cover an increased of participation (**8.5 k€ more** for the event) we think this is a key event to reach some of the Objectives of the MoU and give continuity to the NetWork after the end of the Action.
- **Grants:** increasing a couple of STSMs and ITC conference Grants and assume some dissemination conference grants, this last not foreseen in the original W&BP (**7.3 k€**)
- **Exhibitor** in the next **PSST24 (1,5 k€)**. Conference collocated with the next MC meeting.
- **NetPore video** as dissemination item (**2,7 k€**)

Decisions

- ✓ All new applications for Working Groups have been accepted.
- ✓ 5 additional companies will be invited to the Industry Workshop in June.
- ✓ TS: 16 speakers and around 50 participants. Same schedule as past editions
- ✓ The items to present for the top-up budget have been agreed, reaching an amount of around 20 k€.

7. 2nd NETPORE Workshop - Bucharest (Romania)

Date	19/03/2024 – 20/03/2024
Location	POLITEHNICA București National University for Science and Technology, Bucharest, Romania
Participants	27
Organizer	Anton Ficai & Lluís Marsal

Workshop highlights

List of speakers

- Lluís Marsal** – Universitat Rovira I Virgili of Tarragona (Spain)
- Anton Ficai** - University POLITEHNICA of Bucharest (Romania)
- Josep Ferré-Borrull** – Universitat Rovira I Virgili of Tarragona (Spain)
- Robert Zierold** – Universität Hamburg (Germany) “Atomic Layer Deposition in Porous Structures for Preparing Tailor-Made Functional Devices“
- Paula Ferreira** – University of Aveiro (Portugal) “Functional sustainable (bio)materials”.
- Jan-Henrik Smått** – Åbo Akademi University (Finland) "Novel nanostructured metal oxide materials for applications in solar cells and molecular separation"
- Luisina Forzani** – Consejo Superior de investigaciones científicas / Institute of Materials Science of Madrid (Spain) “Toward the generation of optically complex materials: Optically active foams”
- Kaiying Wang** – University of South-Eastern Norway (Norway)
- Julien Bachman** – Friedrich-Alexander-Universität (Germany)
- Urška Lavrenčič Štangar** – University of Ljubljana (Slovenia)
- Małgorzata Norek** – Military University of Technology of Warsaw (Poland). “Porous anodic alumina: synthesis, properties and application”
- Theo Zacharis** – Greek Scientist Society (Greece)
- Cristina Ciomaga** – Alexandru Ioan Cuza University of Iasi (Romania) “The influence of porosity on the structural and electrical properties of ferroelectric BaTiO₃- based ceramics”
- Nefeli Lagopati** – National and Kapodistrian University of Athens (Greece)
- Narcis Duteanu** – Politehnica University of Timisoara (Romania)
- Hatice Duran Durmuş** – TOBB University of Economics and Technology (Türkiye). “Nanoconfined Nanocrystals: The Effect of Pore Geometry on Polymer Crystallization”
- Pablo Guardia** – Consejo Superior de Investigaciones Científicas- ICMAB.
- Alex Laikhtman** – Holon Institute of Technology (Israel) “Implantation of gallium into layered WS₂ nanostructures is facilitated by hydrogenation”
- Gabriela Petrisor** – University POLITEHNICA of Bucharest (Romania)
- Vasile Dan Adrian** – University POLITEHNICA of Bucharest (Romania)
- Bogdan Purcareanu** – University POLITEHNICA of Bucharest (Romania)

Schedule

Tuesday - MARCH 19 th	
11:00 – 11:15	WELCOME – Lluís Marsal
11:15 – 12:30	Short talks (10 min + 5 min questions)
LUNCH TIME	
13:30 - 15:00	Short talks (10 min + 5 min questions)
15:00 – 15:30	Coffee break
15:30 - ?	Collaborations & projects
End of the 1 st day	
Wednesday - MARCH 20 th	
9:00 – 10:30	Short talks (10 min + 5 min questions)
10:30 – 11:00	Coffee break
11:00 – 11:45	Students Short talks (10 min + 5 min questions)

11:45 – 12:30

Final Conclusions

END OF THE WORKSHOP

Visual Recap



8. 2nd NetPore Industry Workshop (3) – Tarragona (Spain)

Date	5/06/2024 – 6/06/2024
Location	H10 Imperial Tarraco – NanoSpain Conference, Tarragona, Spain
Participants	30
Organizer	Lluís Marsal

Workshop highlights

NetPore invited several Industry Representatives that are currently involved in the network but this time only 2 participate.

- Mr Chris Burns (POROUS SILICON)
- Dr Kari Koski (BENEQ)

The 2nd Industry Workshop was co-organized with NanoSpain 2024 in Tarragona in a similar manner as last GP. NetPore counted with a slot on the plenary session on the 5th. During this session, at 12:00, Prof. Lluís Marsal, as the Chair of the Network, gave an informative talk about NetPore COST Action: Objectives of the network, participation statistics and other information of interests. After this talk, the Industry Representatives had 15 min to talk about their company, interests, research lines, etc.

In the afternoon on the 5th a parallel session in a smaller room of the same venue was devoted to NetPore and all the attendees could give a 10 min talk about their work and main interests. The 6th was dedicated to WG meeting.

In addition, NetPore participate in the conference with a big exhibitor hosting the participating companies

PROGRAM




Chairperson: Lluís Marsal (URV, Spain)			
11:15-11:30	<i>Netpore: COST network on porous semiconductors and oxides</i>	Lluís Marsal , URV, Spain	 ABSTRACT
11:30-11:45	<i>Conformal Nanostructure Coatings by Atomic Layer Deposition</i>	Kari Koski , Beneq Oy, Finland	 ABSTRACT
11:45-12:00	<i>The World of Porous Silicon: from Theory to Praxis</i>	Robert Christopher Burns , Porous Silicon, Austria	 ABSTRACT

Figure 4. NanoSpain program caption (June 5th).

NETPORE WORKSHOP Wednesday - JUNE 5 th	
15:30 – 15:40	Chris Burns – Porous Silicon (Austria)
15:40 – 15:50	Kari Koski – Beneq Oy (Finland)
15:50 – 16:00	Ana Alcludía – Universidad de Sevilla (Spain)
16:00 – 16:10	Kaying Wang – University of South-Eastern Norway (Norway)
16:10 – 16:20	Ángel Barranco – ICMSE-CSIC (Spain)
16:20 – 16:30	Aurelien Viterisi – University of Pau and Pays de l’Adour (France)
16:30 – 16:40	Jan Macak – Brno University of Technology (Czech Republic)
16:40 – 16:50	Nikola Knežević – BioSense Institute (Serbia)
COFFEE BREAK	
17:10 – 17:20	Silvia Soria – IFAC-CNR (Italy)
17:20 – 17:30	Anton Ficai (National University Politehnica Bucharest (Romania)
17:30 – 17:40	Nefeli Lagopati (National and Kapodistrian University of Athens (Greece)
17:40 – 17:50	David Martín-Sánchez – Instituto de Microelectrónica de Sevilla (Spain)
17:50 – 18:00	Lluís Marsal – Universitat Rovira i Virgili (Spain)
End of the 1 st day	
Thursday - JUNE 6 th	
9:30 – 12:00	WG meeting
END OF THE WORKSHOP	

Visual Recap



9. CG Meeting 5 – Ankara (Türkiye)

Date	8/07/2024
Location	TOBB University of Economics and Technology (Ankara)
Participants	8
Organizer	Hatice Duran Durmus and Lluís Marsal

Meeting highlights

- Review of new WG applications: 24 applications
- Review budget status
- Organization of the last Workshop in Ljubljana (Slovenia)
- Proposal of the activities for the 4th (last) Grant Period
- Re-schedule of the virtual CG meeting in May to early September due to the low participation

Decisions

- ✓ New WG application were approved
- ✓ The non-spent budget from the MC meeting will be relocated to the Workshop in Ljubljana with the corresponding increase of participation.
- ✓ The grant calls will keep them open until the budget will be spent.
- ✓ The budget planned for the PSST (in case of no more budget will be required for grants) will be re-located to other dissemination items to be decided.
- ✓ The Virtual CG meeting programmed in May will be moved to September 6th.

10. 3rd Summer Training School – Ankara (Türkiye)

Date	8/07/2024 – 11/07/2024
Location	TOBB University of Economics and Technology, Conference Center (Ankara)
Participants	46
Organizer	Hatice Duran Durmus

School highlights

PROGRAM

Monday - JULY 8th	
12:20 – 14:00	REGISTRATION
14:00 – 15:00	WELCOME Hatice Duran Durmuş & Lluís Marsal
15:00 – 15:50	Paula Ferreira - “DESIGN OF POROUS METAL OXIDE USING BLOCK COPOLYMERS”
15:50 – 16:30	COFFEE
16:30 – 17:20	Thierry Djenizian - “FABRICATION AND MODIFICATION OF TiO ₂ NANOTUBES FOR HIGH-PERFORMANCE Li-ION MICRO BATTERIES”
Tuesday - JULY 9th	
10:00 – 10:50	Martin Steinhart - “SELF-ORDERED POROUS ANODIC ALUMINUM OXIDE (AAO): FABRICATION, CHARACTERIZATION, APPLICATIONS”
10:50 – 11:30	COFFEE
11:30 – 12:20	Hatice Duran Durmuş - “CRYSTALLIZATION IN NANOPORES: HOW TO IMPROVE THERMOS-PHYSICAL PROPERTIES OF MOLTEN SALTS”
LUNCH TIME	

15:00 – 15:50	Mato Knez - “COATING AND SURFACE MODIFICATION TECHNIQUES”
15:50 – 16:30	COFFEE
16:30 – 17:20	Małgorzata Norek - “FABRICATION AND FUNDAMENTAL PROPERTIES OF POROUS ANODIC ALUMINA”
17:20-18:20	Poster Session

Wednesday - JULY 10th

10:00 – 10:50	Shahzada Ahmad - “LIGHT MATTER INTERACTION IN EMERGING SEMICONDUCTORS”
10:50 – 11:30	COFFEE
11:30 – 12:20	Aurelien Viterisi - “NOVEL MATERIALS FOR THE TRANSFORMATION OF CO ₂ INTO ADDED-VALUE CHEMICALS”

LUNCH TIME

15:00 – 15:50	Nima Gorji - “SEMICONDUCTOR MATERIALS FOR SOLAR CELLS, NEW STRUCTURE DESIGN AND COATING MATERIALS”
15:50 – 16:30	COFFEE
16:30 – 17:20	TOBB UET – Technology Center Tour
17:20-18:20	Poster Session

Thursday - JULY 11th

10:00 – 10:50	Josep Ferré-Borrull - “POROUS ANODIC ALUMINA PREPARATION, TUNING OF OPTICAL PROPERTIES AND APPLICATIONS”
10:50 – 11:30	COFFEE
11:50 – 12:20	DISCUSSION & CLOSING

LUNCH TIME

END OF THE 3rd NETPORE SUMMER TRAINING SCHOOL

*For more detailed information about the 3rd NetPore Training School see the entire Training School Report in <https://netpore.eu/NTP/usdoc.php>.

11. CG Meeting 6 (virtual)

Date	26/07/2024
Location	Online (Teams)
Participants	7
Organizer	Lluís Marsal

Meeting highlights

- Review of new WG applications: 2 applications.
- Revision of the budget status.
- Description and last adjustments on the organization of the Workshop in Ljubljana.
- Resume of the Action activities and proposals for the 4th GP.
- Discussion and debate about the possible future and continuity of the network.

Decisions

- ✓ New WG application were approved
- ✓ 2.7 k€ has been relocated to the Training School from the non-spent of other meetings budget.
- ✓ 850 k€ is relocated from Other expenses remanent to the overspent in grants.
- ✓ Participants at the Workshop in Ljubljana has been accepted.
- ✓ The participation will be increased to meet the budget amount and the remaining budget from other meetings.

12. CG Meeting 7 (virtual)

Date	06/09/2024
Location	Online (Teams)
Participants	7
Organizer	Lluís Marsal

Meeting highlights

- Review of new WG applications: 5 applications.
- Presentation of the last draft (prior to submission) of the 4th GP W&BP. The budget offered by COST Association has been communicated to the CG.
- Presentation of the last details regarding the organization of the Workshop in Ljubljana. Confirmation of participants and closing of the program.

Decisions

- ✓ New WG application were approved
- ✓ The proposal for the first 4th W&BP draft is accepted.
- ✓ The CG accept and close the schedule for the last Worskhop in Ljubljana.

13. CG Meeting 8 – Ljubljana (Slovenia)

Date	02/10/2024
Location	National Institute of Chemistry, Ljubljana, Slovenia
Participants	5
Organizer	Natasa Novak Tusar & Lluís Marsal

Meeting highlights

- Revision of 4 new WG applications.
- A new member of the MC applied: Stephane Hocquet representing Belgium.
- Resume of the presented W&BP to the Officers.
- Debate about the future of the Network.

Decisions

- ✓ Approval of the 4 new members.
- ✓ No other decisions have been derived from this meeting

Notes and comments

All the debate of this meeting has been dedicated to the future of the network. No decisions have been taken from this meeting. A lot of ideas have been proposed, all of them will be expose during the next MC meeting in order to take a final decicion.

14. 4th NETPORE Workshop – Ljubljana (Slovenia)

Date	02/10/2024 – 03/10/2024
Location	National Institute of Chemistry, Ljubljana, Slovenia
Participants	30
Organizer	Natasa Novak Tusar & Lluís Marsal

Workshop highlights

PROGRAM

Wednesday, OCTOBER 2nd	
10:00 – 10:30	WELCOME & Coffee
10:30 – 10:45	Lluís Marsal
10:45 – 11:00	Nataša Zabukovec Logar
11:00 – 11:15	Urska Lavrencic Stangar
11:15 – 11:30	Giuseppe Barillaro
11:30 – 11:45	Frederique Cunin
11:45 – 12:00	Anton Fikai
12:00 – 12:15	Vicente Torres Costa
12:15 – 12:30	Anna Laromaine
LUNCH	
13:30 – 13:45	Hatice Duran Durmuş
13:45 – 14:00	Jarno Salonen
14:00 – 14:15	Kaiying Wang
14:15 – 14:30	Luisina Forzani
14:30 – 14:45	Martin Steinhart
14:45 – 15:00	Gregor Žerjav
15:00 – 15:30	COFFEE BREAK
15:30 – 15:45	Muhammad Taha Sultan

15:45 – 16:00	Aurelien Viterisi
16:00 – 16:15	Andraz Suligoj
16:15 – 16:30	Ciro Chiappini
16:30 - ?	DISCUSSION
19:00 SOCIAL DINNER at Gostilna Sokol (Ciril Metodov trg 18)	
END of the 1st day	

Thursday, OCTOBER 3rd	
9:00 – 9:15	Akash Bachhuka
9:15 – 9:30	Mato Knez
9:30 – 9:45	Jose Vicente Ros Lis
9:45 – 10:00	Alex Laikhtman
10:00 – 10:45	COFFEE & DISCUSSION
10:45 – 12:30	OPTIONAL VISIT Faculty of Chemistry and Chemical Technology University of Ljubljana
LUNCH	
END of the WORKSHOP	

List of Speakers

- **Lluís Marsal (ORGANIZER)** – “*Research in Structural Engineering of Nanoporous Anodic Alumina and Applications*” Universitat Rovira i Virgili, Spain.
- **Nataša Zabukovec Logar (LOCAL ORGANIZER)** – “*Research directions at the Department of Inorganic Chemistry and Technology*” National Institute of Chemistry, Slovenia.
- **Urska Lavrencic Stangar** – “*Presentation of the Faculty and research program Chemistry for sustainable development*” University of Ljubljana, Faculty of Chemistry and Chemical Technology, Slovenia.
- **Giuseppe Barillaro** – “*Layer-by-Layer Self-Assembly of Polyelectrolytes: From Ultrathin Ambipolar Capacitors to Implantable Label-Free Biosensors*” University of Pisa, Italy.
- **Frederique Cunin** – “*Porous Silicon, a Biodegradable Semiconductor for Nanomedicine*” CNRS Montpellier, France.
- **Anton Ficai** – “*Teaching and R&D Capabilities in Materials Chemistry*” POLITEHNICA București National University for Science and Technology, Romania.
- **Vicente Torres Costa** – “*Research at the Micro and Nano Functional Materials Group*” Universidad Autónoma de Madrid, Spain.
- **Anna Laromaine** – “*Bacterial Nanocellulose as Adaptive Bio-composites in Medical Applications*” Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), Spain.
- **Hatice Duran Durmuş** – “*Micro-nano interface investigations from nanoconfined crystallization to ice-repel surface design*” TOBB University of Economics and Technology, Türkiye.
- **Jarno Salonen** – “*Controlling the chemical stability and morphology of porous silicon*” University of Turku, Finland.
- **Kaiying Wang** – “*Bifunctional Water Splitting via Pulsed Electrocatalysis of Nickel Single-Atom Catalysts on Graphdiyne Porphyrin Analogues*” University of South-Eastern Norway, Norway.
- **Luisina Forzani** – “*Nanostructured Semiconductors and Optofluidics Group*” Instituto de Ciencia de Materiales de Madrid, Spain.

- **Martin Steinhart** – “*Self-Ordered Nanoporous Aluminum Oxide and Porous Stamps*” Universität Osnabrück, Germany.
- **Gregor Žerjav** – “*The influence of plasmonic noble metal Pt loading on the photothermal NO₂ reduction activity of TiO₂/Pt materials*” National Institute of Chemistry, Slovenia.
- **Muhammad Taha Sultan** – “*Self-Ordered Nanoporous Aluminum Oxide and Porous Stamps*” Reykjavik University, Iceland.
- **Aurelien Viterisi** – “*Nanoporous anodic alumina membranes as gas diffusion layers for CO₂ reduction catalysts*” CNRS Pau, France.
- **Andraz Suligoj** – “*Photocatalysis, photo-Fenton and surfaces for environmental applications*” University of Ljubljana, Faculty of Chemistry and Chemical Technology, Slovenia and National Institute of Chemistry, Slovenia.
- **Ciro Chiappini** – “*Porous Silicon Nanoneedles for Cell and Gene Therapy*” King's College London, United Kingdom.
- **Akash Bachhuka** – “*Nanoscale Surface Engineering for Enhanced Cellular Interaction, Controlled Drug Delivery, and Biosensor Development*” Institut Català d'Investigació Química, Spain.
- **Mato Knez** – “*Nature's inspiration for material advancement*” CIC nanoGUNE, Spain.
- **José Vicente Ros Lis** – “*The atrane route, solid-state microwave assisted synthesis, and life cycle assessment of silica mesoporous materials*” Universitat de València, Spain.
- **Alex Laikhtman** – “*Functionalized Porous WS₂ Nanostructures for Improved Performances in Hydrogen Evolution Reaction*” Holon Institute of Technology (HIT), Israel.

Visual Recap

