



WP2.2 news

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Tracking WP2.2 activities

- ⇒ Tracking of WP2.2 will happen in [this document](#). The document can be edited freely so you can update information. (Just the summary sheet is protected)
- ⇒ It contains also a list of conference opportunities (see next slide)
 - ✓ You are welcome to add in new conferences.

Conference	Dates	Venue	Website	comments
AISSAI2024	4-7/3 2024	Clermont-Ferrand	https://indico.in2p3.fr/event/30272/	
ISGC 2024	25-29/3 2024	Taiwan	https://indico4.twgrid.org/event/33/program	Call for abstracts closes on Nov 30th 2023
EuCAIFCon	30/4-3/5/2025	Amsterdam	https://www.eucaif.org/	
LHCP2024	3-7/6/2024	Boston	https://indico.cern.ch/event/1253590/	
IFAE 2024	3-5/04/2024	Firenze	https://agenda.infn.it/event/38127/	
ICHEP 2024	18-24/07/2024	Praga	https://indico.cern.ch/event/1291157/overview	
CHEP 2024	19-25/10/2024	Cracow	https://indico.cern.ch/event/1338689/	Deadline for abstracts: 10 May
MSML24	19-21/06/2024	Trieste	https://indico.sissa.it/event/107/overview	Deadline for abstracts: 29 March
Past conferences				
LHCC 2023 poster session	27 November	CERN		Abstract deadline Oct 31st
XAI 2023	20-22/11/2023	Milano	https://indico.cern.ch/event/1312529	
ALPACA 2023	20-24/11/2023	Trento	https://indico.ectstar.eu/event/184/	
IML2024	29/1/2024 - 2/2/2024	CERN	https://indico.cern.ch/event/1297159/overview	Call for abstracts closes on Nov 15th 2023
ECFA	10-13/10/2023	Paestum	https://agenda.infn.it/event/34841/	
ACAT 2024	11-15 Marzo	NY	https://indico.cern.ch/event/1330797/program	

Open Calls status

N. area	Area tematica	Vincoli	PROPOSTE
PUB1	Development of data acquisition and trigger strategies in the context high background, rare event experiment, using acceleration on hybrid CPU/FPGA architectures, in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	1
PUB2	Development of a multipurpose/multi experiment high level cloud infrastructure for small/medium astroparticle experiments, on the infrastructure of ICSC and for the benefit of Spoke 2 use cases	Per beneficiari pubblici	
PUB3	Development of a GPU library for massively parallelized simulations of QCD and QCD+QED on the lattice in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	1
PUB4	Development and performance optimization of typical simulation codes in HEP and Astro, for the use cases of Spoke 2	Per beneficiari pubblici	4
PUB5	Advanced algorithms for GW experiments (Virgo and ET) in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	2
PUB6	Studying the quantum Boltzmann equation neutrino flavour conversion in a dense environment in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	
PUB7	Development of algorithms for boosted topologies at LHC/FCC, in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	3
PUB8	Accelerated analysis of Astrophysical data in the Photon Counting Big Data era, in the context of the activities of the Spoke2 in ICSC	Per beneficiari pubblici	

N. area	Area tematica	Vincoli	PROPOSTE
IND1	Data Management PoCs/pilots with Spoke 2 solutions in industrial environments (datalake, distributed computing, ...)	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	3
ND2	Solutions, implementation and deployment of a computing PoC based on the ARM architecture	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	0
IND3	Porting and optimization (on GPU, on FPGA, on CPU) of algorithms of interest of AstroParticle experiments	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	
IND4	Realization of tools and pilots for the Space Economy domain, using the infrastructure of the ICSC (portals, market exchange, algorithms, services, ...)	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	
IND5	Heterogeneous industrial use cases on the Spoke 2 platforms (GPU + FPGA + ARM)	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	
IND6	Profiling, code engineering and code quality on Spoke 2 code repositories	Per beneficiari privati; non utilizzabile "Ricerca Fondamentale"	

Resource Allocation Board

- ⇒ All requests collected were approved.
- ⇒ Great success, thanks to the PIs for their well documented requests.
- ⇒ Flagship use cases PI have been in contact with CINECA and INFN to gain access to the resources, more in the talks
 - ✓ CINECA resources might come first
- ⇒ **WARNING:** allocation of resources in future requests are likely going to be more selective

Today's agenda

14:00 → 14:10 **News**

Speakers: Alberto Annovi (Istituto Nazionale di Fisica Nucleare), Piergiulio Lenzi (Istituto Nazionale di Fisica Nucleare)

🕒 10m

14:10 → 14:30 **Physics validation of reconstruction code on ARM**

Convener: Francesco Noferini (Istituto Nazionale di Fisica Nucleare)

14:30 → 14:50 **Quasi interactive analysis of big data with high throughput**

Conveners: Francesco Giuseppe Gravili (Istituto Nazionale di Fisica Nucleare), Tommaso Diotallevi (Università e INFN, Bologna)

14:50 → 15:10 **Porting of algorithms to GPUs**

Convener: Adriano Di Florio

15:10 → 15:30 **Development of ultra-fast algorithms running of FPGAs ¶**

Conveners: Bernardino Spisso (Istituto Nazionale di Fisica Nucleare), Simone Gennai (Istituto Nazionale di Fisica Nucleare)

15:30 → 15:50 **Advanced Machine Learning Flash Simulation and bleeding edge applications**

Convener: Lucio Anderlini (Istituto Nazionale di Fisica Nucleare)



Backup

Per referenza

	Durata temporale	Mese di progetto	Scadenze per invio report scientifico ad HUB
Milestone 6	Mag 23 – Ago 23	M9-M12	DONE!
Milestone 7	Set 23 – Feb 24	M13-M18	20 Marzo 2024
Milestone 8	Mar 24 – Giu 24	M19-M22	15 Luglio 2024
Milestone 9	Lug 24 – Ott 24	M23-M26	20 Novembre 2024
Milestone 10	Nov 24 – Ago 25	M27-M36	20 Marzo 2025 (report intermedio) Report finale a Settembre 2025 (deadline tbc)

Reporting

New procedure agreed with the referees:

For each project milestone we will need to produce a report for each flagship UC.

Milestones are:

- ⇒ Month 18 (Feb '24) → Milestone 7
- ⇒ Month 22 (June '24) → Milestone 8
- ⇒ Month 26 (Oct '24) → Milestone 9
- ⇒ Month 36 (Aug '25) → Milestone 10

Every two months an interim short report is needed as well for every flagship UC

Flagship use cases

Flagship documents available at these links:

- ⇒ **Quasi interactive analysis of big data with high throughput**
 - ✓ Tommaso Diotallevi (UniBo), Francesco Gravili (UniSalento)
- ⇒ **Advanced ML: flash simulation and other bleeding edge applications**
 - ✓ Lucio Anderlini (INFN Fi)
- ⇒ **Development of ultra-fast algorithms running of FPGAs**
 - ✓ Bernardino Spisso (UniNa), Simone Gennai (INFN MiB)
- ⇒ **Porting of algorithms to GPUs**
 - ✓ Adriano Di Florio (Poliba)
- ⇒ **Physics validation of reconstruction code on ARM**
 - ✓ Francesco Noferini (INFN Bo)

Thanks to the work of the PIs over the summer and to all of your contributions

Flagship UC mailing lists

- ⇒ Quasi interactive analysis of big data with high throughput
 - ✓ [\[cn1-spoke2-wp2-analysisfacility\]](#), [subscribe](#)
- ⇒ Advanced ML: flash simulation and other bleeding edge applications
 - ✓ [\[cn1-spoke2-wp2-flashsim\]](#), [subscribe](#)
- ⇒ Development of ultrafast algorithms running on FPGAs
 - ✓ [\[cn1-spoke2-wp2-fpga\]](#), [subscribe](#)

Please subscribe to the list that is relevant for the work you are doing in ICSC.

ICSC spoke 2 github organization

Available at: <https://github.com/ICSC-Spoke2-repo>

People are encouraged to add repositories with software developed in the context of ICSC - spoke 2. Send us a request for the creation of repos/moving of repos

Important: if you are not the owner of a repository (e.g. because it is the repository of an experiment and it contains code other than the one developed in the context of ICSC), we'd still be interested in forking the repo in this organization

Having spoke 2 code in this organization is important for reporting/auditing from the referees