

2023 Collaboration Meeting- Dec 4-6, LNF



Updates from PubComm



F. Petrucci



The University Of Sheffield.



PubComm (actually Editorial Board + Speakers Committee)

Fernando Amaro left the PC (no longer in an academic position)

Cristina Monteiro entered the PC in September

Current Composition:

- F. Petrucci (since Sept 2021, renewed in Sept 2023, chair since Oct 2022)
 - A. Messina (since March 2022, to be renewed, if available, in March)
 - G. Dho (since January 2023)
 - C. Monteiro (since September 2023)
- + D. Pinci and E. Baracchini ex-officio as Spokespersons

There is a proposal to **enlarge** PC members number to cover several tasks:

- find/propose/follow-up interesting conferences;
- review slides and proceedings;
- check if presented material (numbers, plots, images) are “approved” (meaning? see next slide);
- review papers (follow up the procedure + acts as internal reviewers);
- check the author list (rather easy, but thorny and error prone ... see following slides);
- maintain (possibly improve!) our web pages.

PubComm – “approved” material

Approved material definition: the material that can be shown at a conference or written in a proceeding.

PC reviewers cannot decide that on the spot (and usually in a short time).

Approved materials include:

- (obvious) numbers, plots and images taken from **already published material**;
- numbers, plots and images from **ongoing work/analysis**, only if “approved” in the relevant subgroup meeting and under the responsibility of the Working Package “leader” :
 - “**blessed**” numbers and plot: not published, but solid and reliable (pay attention here if they are foreseen to go into a paper...)
 - approved results still in a **preliminary** form: results of an ongoing analysis that are still to be finalized but have already been deeply discussed in the meetings (with the writing “Preliminary” on top!)

All the material should be collected in dedicated pages.

Also, material used for publication should be available (to avoid cut&paste with loss of quality)



Links to the Wiki pages for the different activities are listed in the table:

Activity	Wiki link	Main editor	Used
Physics Case	Physics Case	Elisabetta Baracchini	NO
Detector General	Detector General	Davide Pinci	~YES
Integration	Integration	Giovanni Mazzitelli	YES
Mechanics and Drawings	Mechanics and Drawings	Sandro Tomassini	NO
DAQ	DAQ	Andrea Messina	NO
Slow Control + Gas	Slow Control + Gas	Francesco Renga	NO
Operations	Operations	Stefano Piacentini	~NO
Analysis	Analysis	Emanuele Di Marco	~YES
Simulation (SRIM+Geant4+Garfield)	Simulation	Giulia D'Imperio	~YES
Digitization	Digitization	Fabrizio Petrucci	YES
Steering Committee	SC	Fabrizio Petrucci	YES
Publication Committee	PubComm	Fabrizio Petrucci	YES
Pictures and Plots repository	Pict&Plots	Fabrizio Petrucci	YES

EXAMPLE

Picture and Plots repository

Fabrizio Petrucci edited this page last week · 6 revisions

PAGE UNDER DEVELOPMENT - Draft version

Links to the Wiki pages for the different activities are listed in the table:




Activity	Wiki link	Main editor
Detector pictures	DetPict	
Physics plots	Physics	Elisabetta Baracchini
Analysis plots	Analysis	Giorgio Dho

Detector Pictures

Fabrizio Petrucci edited this page 4 days ago · 24 revisions

- [How to add images or plots](#)



Figure	caption and notes
	gas system for LIME @ LNGS - November 2023
	gas system for LIME @ LNGS - November 2023
	assembly the water shielding for LIME @ LNGS - November 2023

PubComm – author list

Rather easy: once there is a clear definition of “authorship”, compiling the list is easy. Rules are here: [https://github.com/CYGNUS-RD/WIKI-documentation/wiki/Publication-Committee - Authorship](https://github.com/CYGNUS-RD/WIKI-documentation/wiki/Publication-Committee-Authorship) (*)

Delicate: there could be cases which require a discussion that can be delicate sometimes

Error prone: it should be recompiled and formatted each time:

- authors changes in time (in, out, authors of a single publication)
- different journals requires a different formatting of the list both in terms of required informations (for example full names or shorten) and in the latex coding

(*) there is a discussion ongoing to review the rules; for example, requiring each author to do a minimum (tbd) of technical work in a given time span (tbd as well)

Please fill collaborators names and institutions in LaTeX format (accents and speial characters)												
Please suggest a value for the authorship status (1 means active standardauthor; 0 means qualifying author or MS) to be confirmed by the PC												
LR:	Fabrizio Petrucci											
update date:	27/010/2023											
Institution 1	Dipartimento di Matematica e Fisica; Universit'a Roma TRE; 00146; Roma; Italy											
Institution 2	Istituto Nazionale di Fisica Nucleare; Sezione di Roma Tre; 00146; Rome; Italy											
# First Name	Middle Name	Last Name	e-mail	Institution 1	Institution 2 ...	ORCID	abbreviation	authorship status	type of contract	start of activity in CYGNO (for newcomers)	end of contract	current activity
Fabrizio		Petrucci	fabrizio.petrucci@uniroma3.it	Dipartimento di Matematica e Fisic Istituto Naziona		0000-0002-5278-2206	F. Petrucci	1	Permanent		-	LR - simulation - PC - SC

Each LR is required to fill and keep updated the author list table:

ed by the PC						
ORCID	abbreviation	authorship status	type of contract	start of activity in CYGNO (for newcomers)	end of contract	current activity
0000-0002-5278-2206	F. Petrucci	1	Permanent		-	LR - simulation - PC - SC

- 2017-2020: 5 poster + 13 Talks (possibly, something missing in the DB)
- 2021: 4 posters + 20 Talks
- 2022: 8 posters + 20 Talks
- **2023: 2+3 (*) posters + 12 Talks**

(*) posters by Melba, Rita and David at the RD51 CERN School last week

Reduction in the last year...
Still, very good numbers for our small collaboration.

Congratulations!

conference	Presenter	Title	Type	Status	Date
19th Rencontres du Vietnam 2023	A. Prajapati	The CYGNO Experiment: ...	PARALL...	GIVEN	2023-01-05
CEvNS workshop	S. Torelli	Feasibility of solar neutrino...	PARALL...	GIVEN	2023-03-22
IFAE 2022	P. Meloni	L'esperimento CYGNO, un...	POSTER	GIVEN	2023-04-12
CHEP 2023	G. Mazzitelli	Data handling of CYGNO ...	PARALL...	GIVEN	2023-05-08
Dark Matter 2023	F. Borra		POSTER	GIVEN	2023-05-29
TAUP 2023	A. Messina	The CYGNO/INITIUM proj...	PARALL...	GIVEN	2023-08-28
XVII Iberian Joint Meeting on Atomic and ...	E. Baracchini	Optical negative ion drift ...	PLENARY	GIVEN	2023-09-05
Congresso SIF	P. Meloni	L'esperimento CYGNO, un...	PARALL...	GIVEN	2023-09-11
Congresso SIF	F. Borra	Associazione di segnali o...	PARALL...	GIVEN	2023-09-11
TeVPA 2023	A. Prajapati	The CYGNO/INITIUM proj...	PARALL...	GIVEN	2023-09-11
LIDINE 2023: Light Detection In Noble Ele...	D. Marques	CYGNO, a directional Dar...	PLENARY	GIVEN	2023-09-20
16th Topical Seminar on Innovative Particl...	F. Di Giambattista	The LIME detector protot...	PARALL...	GIVEN	2023-09-25
IEEE 2023	F. Petrucci	Performance of a prototy...	PARALL...	GIVEN	2023-11-04
Detector Stability and Aging OPhenomena	R. Antonietti	Study of long term stabili...	PARALL...	GIVEN	2023-11-06

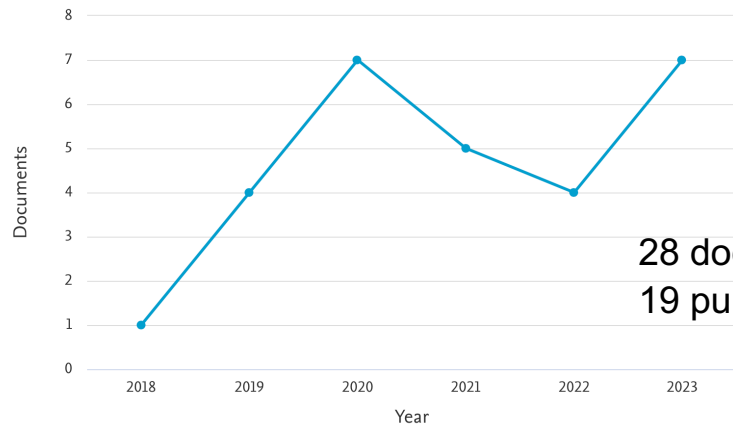
PubComm – Papers published

- 2020: 3 papers published (other 3 started, but published in 2021/2022)
- 2021: 2 papers published (all prepared in 2020, no new paper started!)
- 2022: 1 paper published (started in 2020; several other started...)
- **2023: 3 papers published (all started in 2022, several others in the pipeline)**

▲ Title	🕒 Status	# ...	📄 Reference as	▲ DOI	▲ Journal
Noise assessment of CMOS Active Pixel sensors for the CYGNO Experiment	PUBLISHED	2023	B D Almeida et al 20...	https://doi.org/10.1016/j.meas.2023.110000	Meas. Sci. Technol.
A 50 liter Cygno prototype overground characterization	PUBLISHED	2023	Amaro, F.D., Antonie...	https://doi.org/10.1016/j.epjc.2023.100000	Eur. Physics. J. C.
Directional DBSCAN to detect cosmic-ray tracks for the CYGNO experiment	PUBLISHED	2023	F.D. Amaro et al, Me...	https://doi.org/10.1016/j.meas.2023.110000	Meas. Sci. Technol.
The CYGNO Experiment	PUBLISHED	2022	Amaro, F.D. et al. Th...	https://doi.org/10.1016/j.instrum.2022.100000	Instruments
Identification of low energy nuclear recoils in a gas TPC with optical readout	PUBLISHED	2021	E Baracchini et al 20...	https://doi.org/10.1016/j.meas.2021.100000	Meas. Sci. Technol.
Performance of an Optically Read Out Time Projection Chamber with ultra-relativistic ionization	PUBLISHED	2021	V.C. Antochi et al. N...	https://doi.org/10.1016/j.nima.2021.165000	NIM A
A density-based clustering algorithm for the CYGNO data analysis	PUBLISHED	2020	E. Baracchini et al, JI...	https://doi.org/10.1016/j.jinst.2020.100000	JINST
First evidence of luminescence in a He/CF4 gas mixture induced by non-ionizing electron tracks	PUBLISHED	2020	E. Baracchini et al, JI...	https://doi.org/10.1016/j.jinst.2020.100000	JINST
Stability and detection performance of a GEM-based Optical Readout TPC with Higgs boson production	PUBLISHED	2020	E. Baracchini et al, JI...	https://doi.org/10.1016/j.jinst.2020.100000	JINST

PubComm – citations metrics

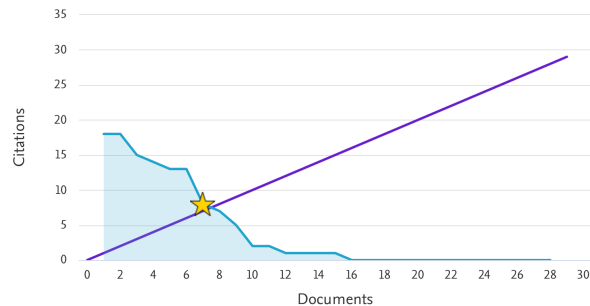
Documents by year



28 documents: 9 papers +
19 published proceedings

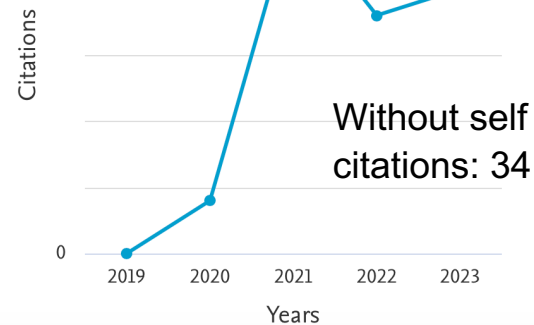
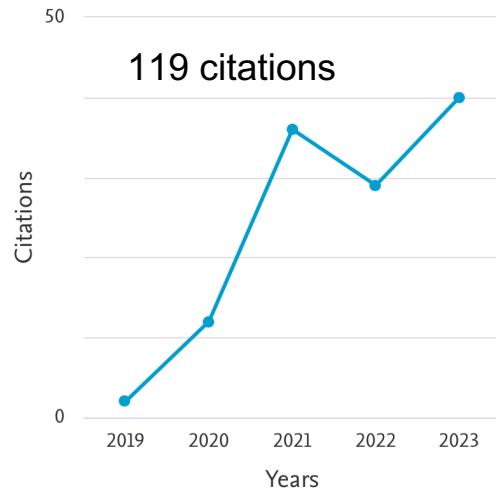
These documents h -index

Of the documents considered for the h -index, 7 have been cited at least 7 times



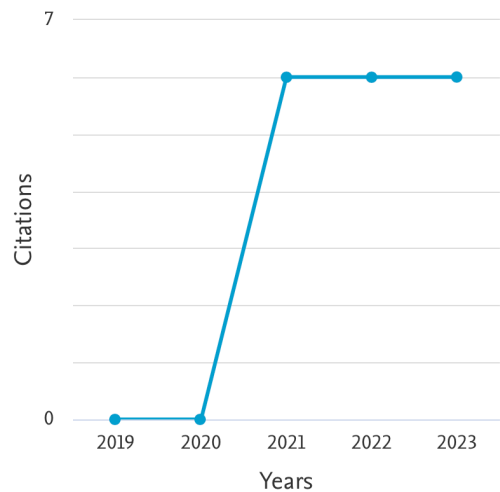
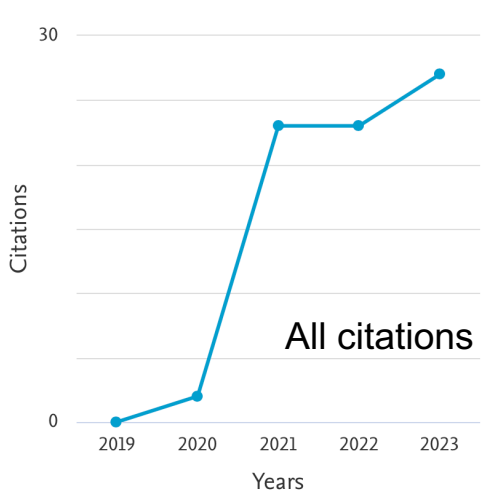
7

119 citations



Without self
citations: 34

PubComm – published papers citations



		Total	0	0	0	6	6	6	18
Noise assessment of CMOS active pixel sensors for the CYGNO ...	2023								0
Directional iDBSCAN to detect cosmic-ray tracks for the CYGN...	2023								0
A 50 l Cygno prototype overground characterization	2023								0
The CYGNO Experiment	2022					1	2		3
Performance of an optically read out time projection chamber...	2021				2	1			3
A density-based clustering algorithm for the CYGNO data anal...	2020				1	3	1		5
Stability and detection performance of a GEM-based Optical R...	2020				1		2		3
First evidence of luminescence in a He/CF ₄ gas mix...	2020						1		1
Identification of low energy nuclear recoils in a gas time p...	2020				2	1			3

Without
Self
citations

PubComm – Papers in pipeline

1. The **isobutane** paper (Cristina is c.a.) was submitted to Physics Letters B at the end of September and it's still under review from the journal. News are expected soon.
2. The paper on enhanced light yield (**ELY**) is still under PC review. The iteration with the appointed reviewers (Cristina and Ernesto) is ongoing. Few more days are required before the circulation in the collaboration.
3. The long overdue paper on **simulation** is being released to the PubComm.
4. The **NID** analysis review towards writing 2 papers on the subject paper is ongoing. Elisabetta is collecting ALL the information here:
https://drive.google.com/drive/folders/1_b3K9uLOOnoSwDJRfle1inbvCUXp14mM?usp=sharing
 Status was updated by Elisabetta earlier.

PubComm – publications airtable

- The air table is a very useful source of information
- Easy query can be implemented to sort or search for specific infos
- Extremely useful when preparing reports (INFN committee, ERC, PRIN, etc etc ...)
- Please LR: [update it!](#)

CYGNO papers
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papers | conferences | Thesis | PhD

Views
Grid view
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Sort

	ID	Candidate	Status	Supervisor	Start date	End date	Topic	Notes
1	PhD_2021_01	R. Antonietti	In progress	F Fabrizio Petrucci	1/11/2021			
2	PhD_2018_01	G. Dho	Finished	E Elisabetta Baracchin	1/11/2018	14/4/2023		
3	PhD_2019_01	F. Di Giambatt...	In progress	E Elisabetta Baracchin	1/11/2019			
4	PhD_2019_02	A. Prajapati	In progress	E Elisabetta Baracchin	1/11/2019			
5	PhD_2019_03	S. Torelli	In progress	E Elisabetta Baracchin	1/11/2019			
6	PhD_2020_01	D. Marques	In progress	E Elisabetta Baracchin	1/11/2020			
7	PhD_2023_01	P. Meloni	In progress	F Fabrizio Petrucci	1/1/2023			

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	Thesis ID	Candidate	Status	Supervisor	Type	Start date	End date	Topic	Notes
1	T_2021_01	P. Meloni	Finished	F Fabrizio Petrucci	Master Thesis	4/10/2021	29/7/2022	Simulazione degli eventi ...	
2									