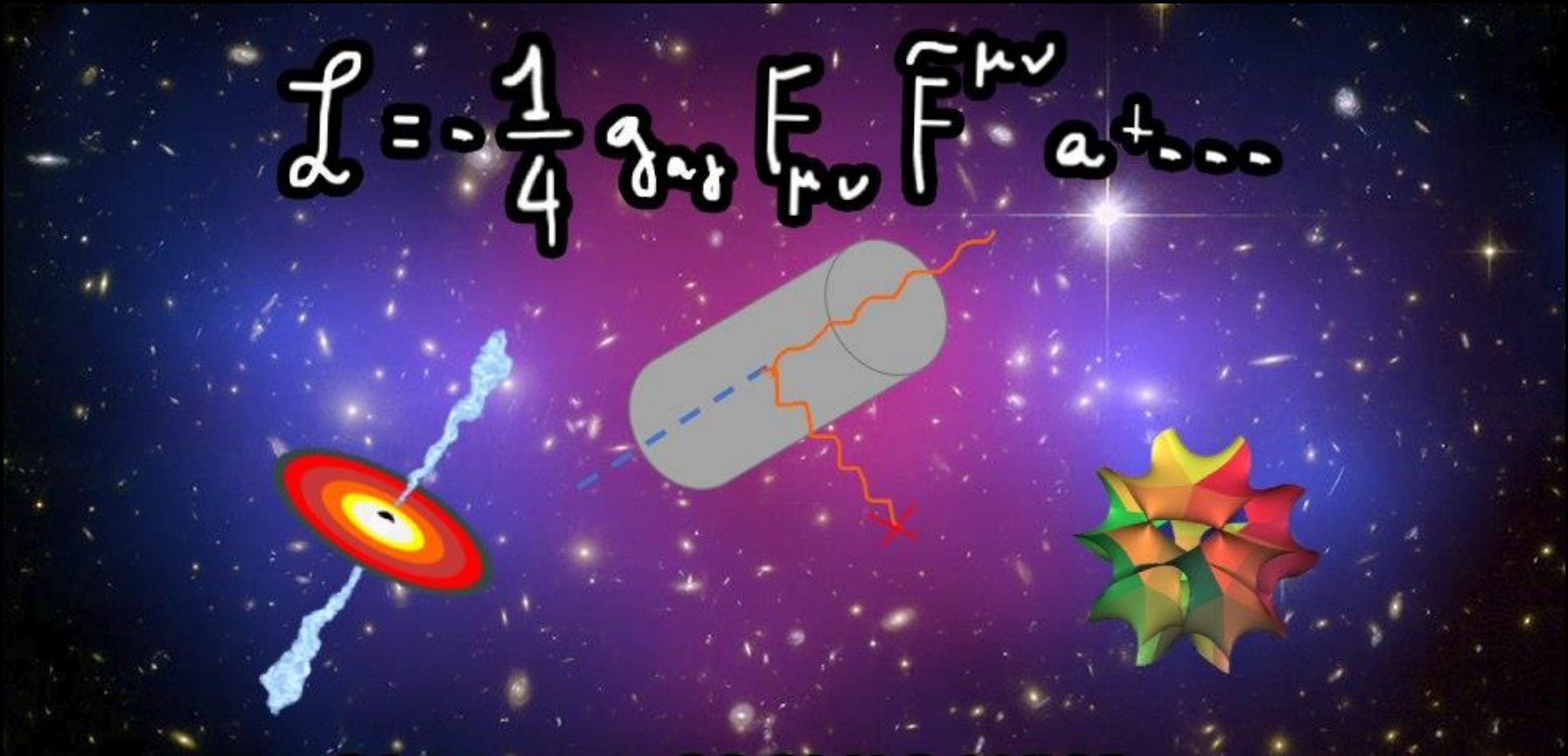
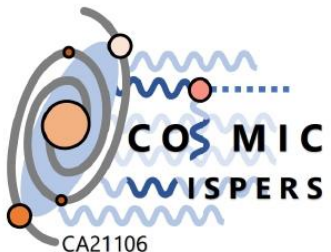


$$\mathcal{L} = -\frac{1}{4} g_{\mu\nu} F_{\mu\nu} F^{\mu\nu} a^{+...}$$



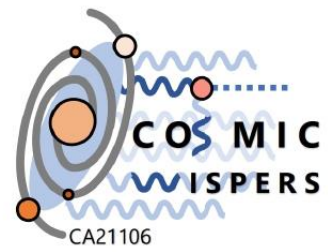
# COST Action CA21106

WG 5: Communication and Dissemination



Loredana Gastaldo  
Kirchhoff Institute for Physics  
Heidelberg University

# COST21106 aims and structure



The aim of this Action is to coordinate and support WISPs searches (on axions, dark photons, etc.) in a synergic way at the boundary between particle physics, astrophysics and cosmology.



Chair: Alessandro Mirizzi,  
Bari University, IT



Vice-Chair: Francesca Calore  
Annecy University, FR

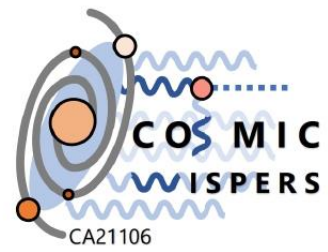
## Working groups

	Topic
WG1	WISPs Model Building
WG2	WISPs DM and Cosmology
WG3	WISPs in Astrophysics
WG4	Direct WISPs searches
WG5	Dissemination and Outreach

## Horizontal Committees

Topic	Coordinator
Grant Evaluation Committee	Venelin Kozhuharov (Sofia Univ., BG)
Young Researchers and Innovators Representative Council	Pierluca Carenza (Stockholm Univ., SW)
Gender and Diversity Advisor	Deniz Sunar Cerci (Adiyaman Univ., TR)

# WG5: Dissemination and Outreach



Enhance the dissemination and communication of the results and to structure outreach activities to attract public awareness to the challenges and achievements in astro-particle physics.

**Leader:** Olga Mena,  
Valencia University, ES

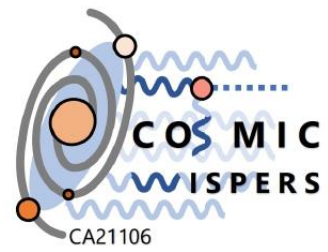


**Deputy:** Loredana Gastaldo,  
Heidelberg University, DE





# Science Communication Plan



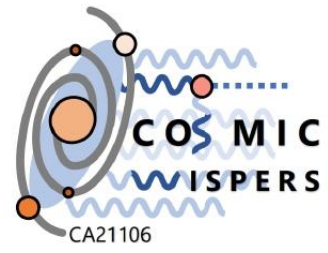
Or why it is relevant to communicate about the Action

A few examples:

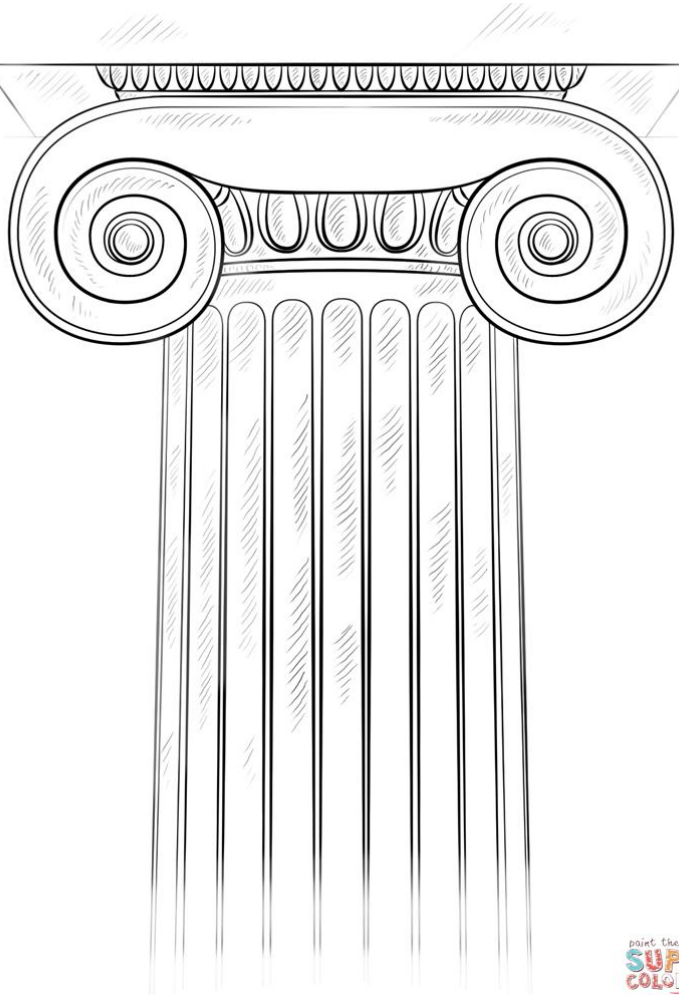
- Research has been **scattered** across Europe
- Urgent need for coordinated and joint effort to build a **collaborative platform** linking science, industry and management
- Raise **awareness**
- Bring added value of belonging to a **multidisciplinary network** involving **numerous countries**
- To spark **new collaborations**



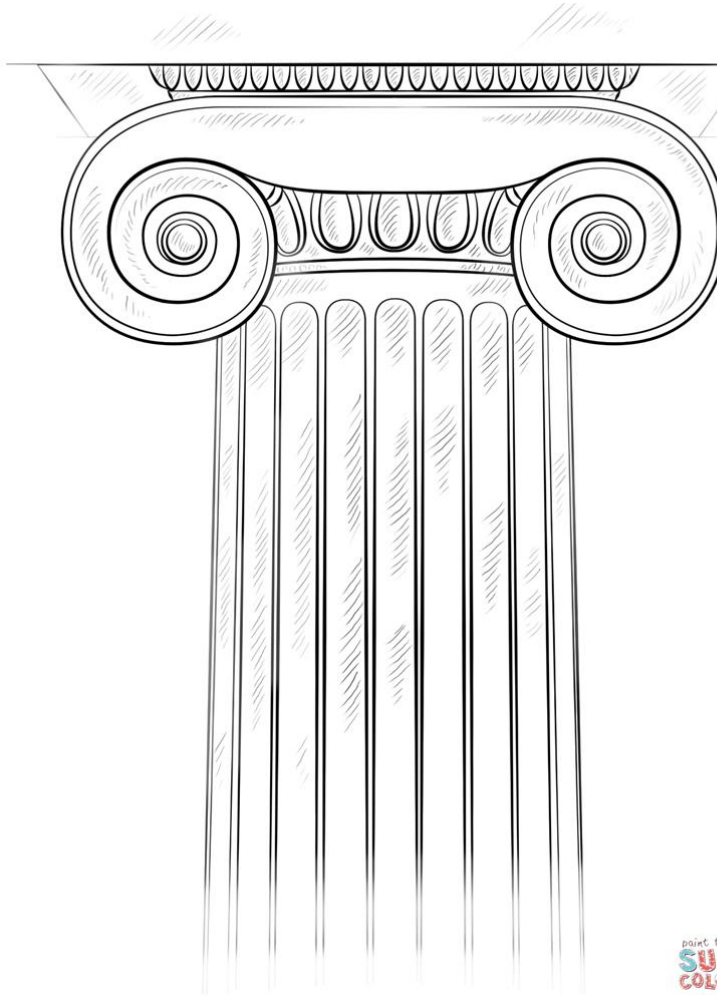
# 3 Pillars



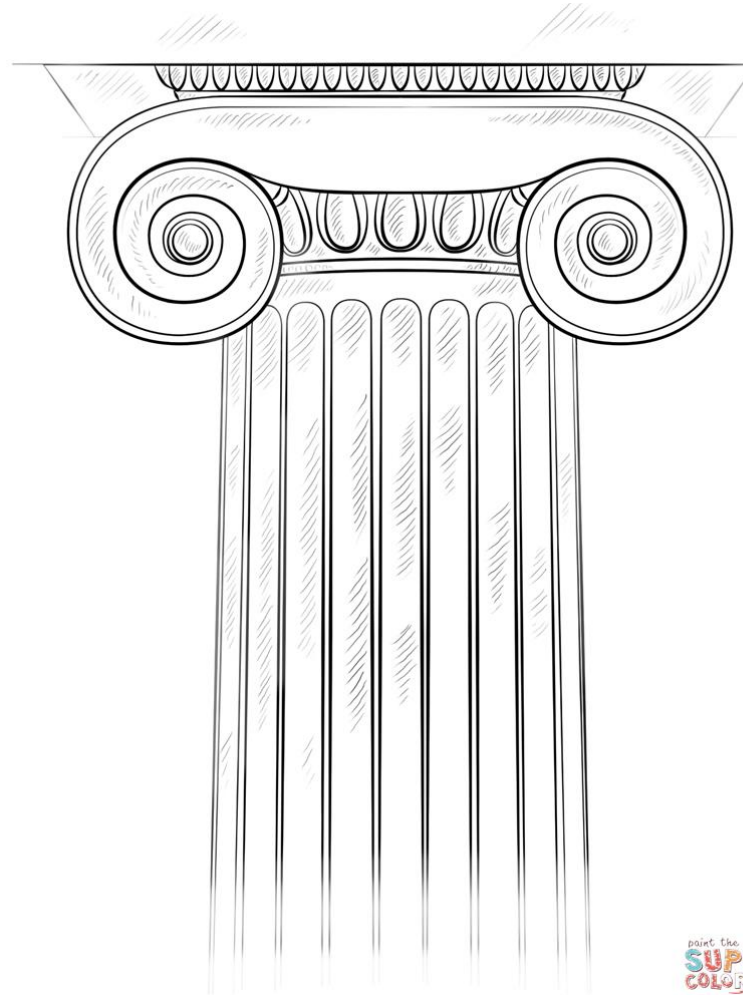
## Communication



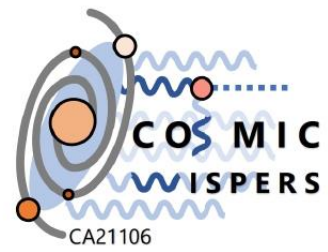
## Dissemination



## Valorization



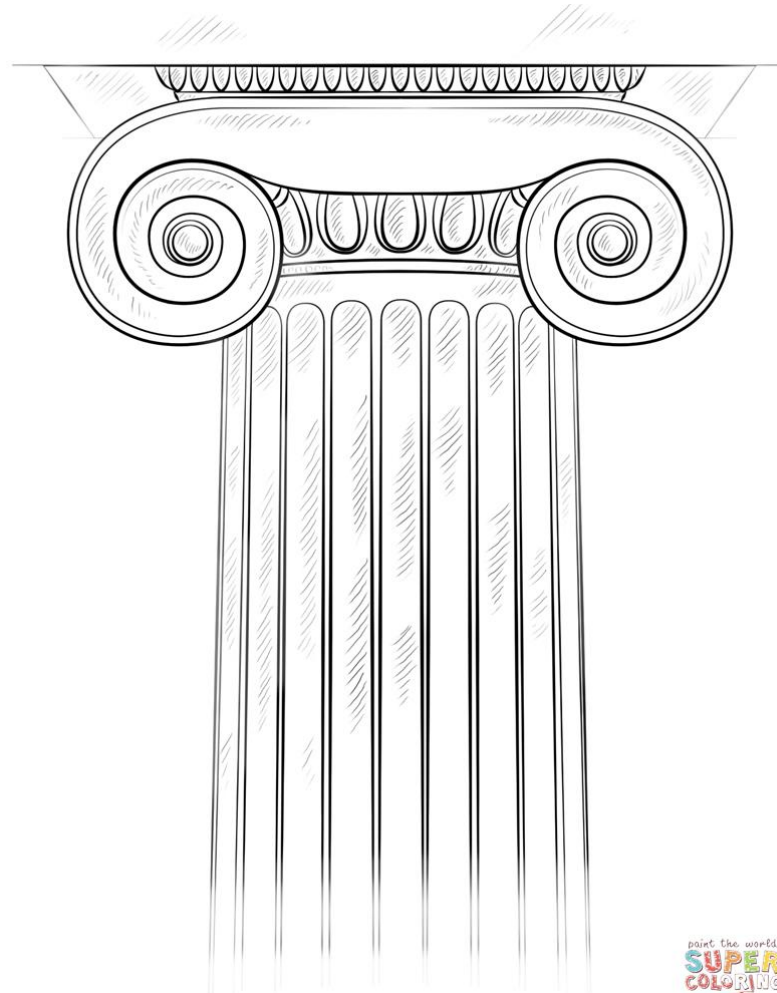
# 3 Pillars



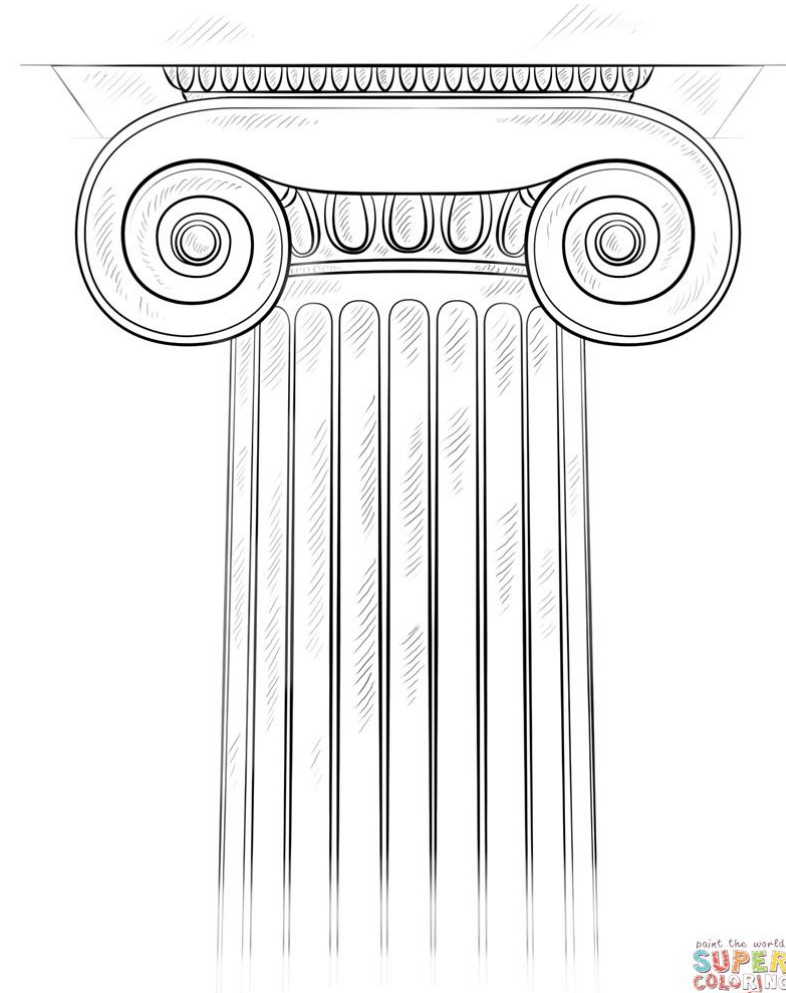
## Communication

The communication goal of the Action is to share the motivations and the achievements of WISPs related research with policy makers and the public at a level that can be understood by non-experts.

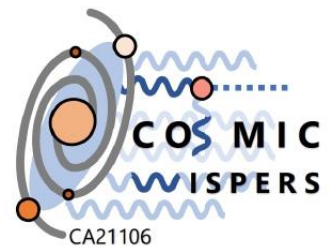
## Dissemination



## Valorization



# 3 Pillars



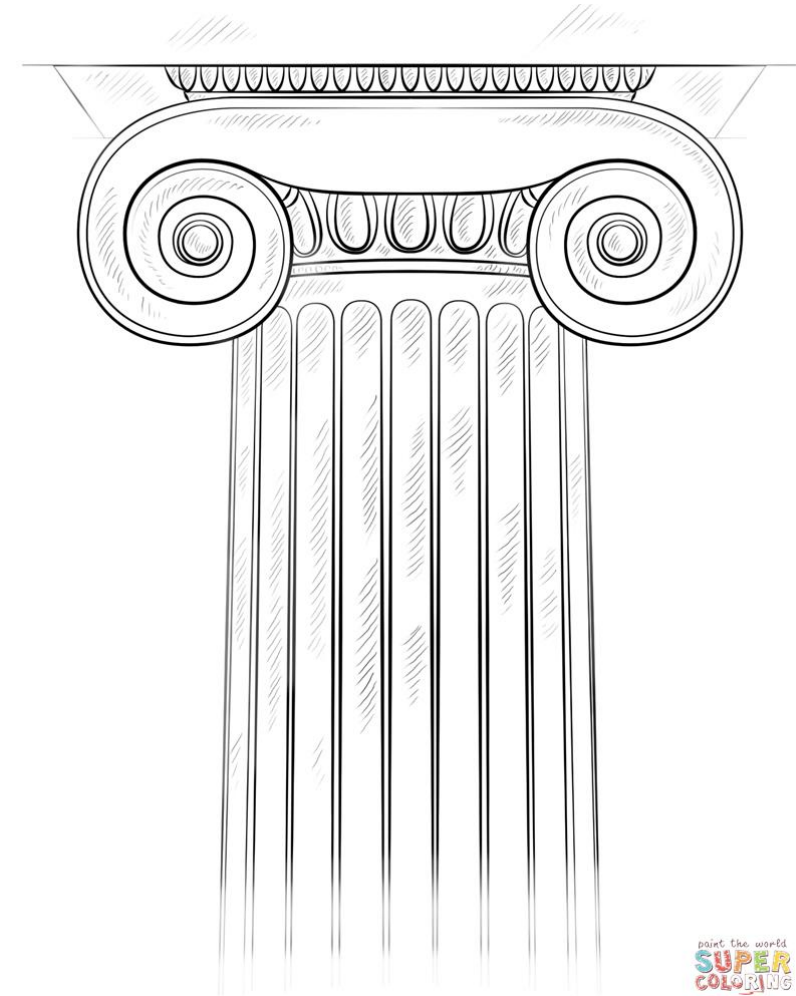
## Communication

The communication goal of the Action is to share the motivations and the achievements of WISPs related research with policy makers and the public at a level that can be understood by non-experts.

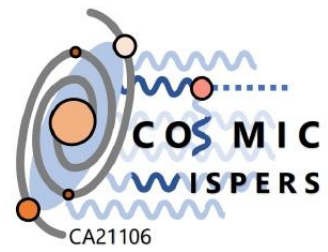
## Dissemination

Make research performed within groups in CA21106 and results obtained by joint efforts to reach high impact in the scientific community and funding agencies

## Valorization



# 3 Pillars



## Communication

The communication goal of the Action is to share the motivations and the achievements of WISPs related research with policy makers and the public at a level that can be understood by non-experts.

## Dissemination

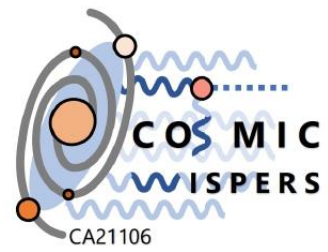
Make research performed within groups in CA21106 and results obtained by joint efforts to reach high impact in the scientific community and funding agencies

## Valorization

Attract Small and Medium Size Enterprises (SMEs) as well as funding agencies to support technological developments for WISPs related experiments



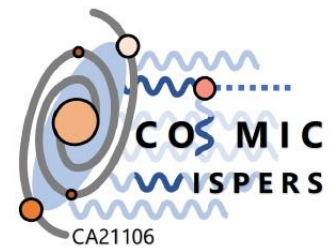
# Who can contribute



Working group	Communication	Dissemination	Valorization
WG1 WISPs Model Building	✓	✓	
WG2 WISPs DM and Cosmology	✓	✓	
WG3 WISPs in Astrophysics	✓	✓	
WG4 Direct WISPs searches	✓	✓	✓
WG5 Dissemination and Outreach	✓	✓	

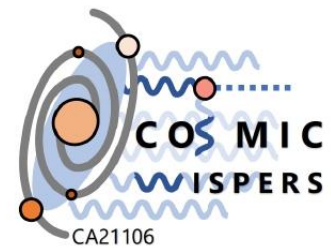
NOT ONLY WG5!

# Communication strategy – implementation



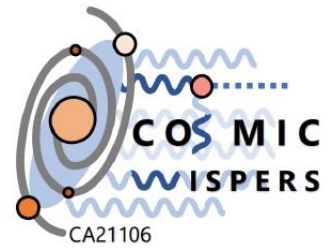
Deliverable	Title	Due date
	Setting on the webpage and a repository concerning the Action activities	6 + periodic updates
	Video to introduce to general public the topics of the Action translated in different languages	12 months + updates
	Twitter account to quickly communicate information related to the Action to general public	6 months + maintenance
	Poster and brochure translated in different languages	6 + periodic updates
	Outreach events at local level (Open Days, Science Weeks and the Night of Researchers)	minimum of twice per year
	Public talk in universities, research and cultural centres	each three months
	Games	twice per year
	Masterclasses for high school students	18 months + updates
	Didactic material translated in different languages addressed to school of different levels	12 months

# Dissemination strategy - implementation



Deliverable Number	Deliverable title	Deliverable date (months)
D1	Setting on the webpage and a repository concerning the Action activities	6
D3-4-5-6	Draft reports on the activities of WG1-2-3-4	12
D12	Report on Technologies Forums	40
D17	Lecture notes of the Training School	12

# Valorization strategy - implementation



Deliverable Number	Deliverable title	Deliverable date (months)
D3-4-5-6	Draft reports on the activities of WG1-2-3-4	12
D12	Report on Technologies Forums	40



# Meetings

- Kick-off meeting 23 – 24 Feb. 2023, Frascati LNF  
<https://agenda.infn.it/event/33570/>

Public talk by Caterina Braggio about  
“Axion Searches with Quantum  
Technologies” (in Italian)

- Annual Conference 05 – 08 Sept. 2023, Bari  
(+Management Committee Meeting)  
<https://agenda.infn.it/event/33570/>

Public talk by Andrea Caputo about  
“Dark Matter, Gravitational Wave and  
Black holes” (in Italian)

- Training School 11 – 14 Sept. 2023, Lecce  
<https://agenda.infn.it/event/34190/>

37 registered students



1st General Meeting of COST Action COSMIC WISPers (CA21106)

Übersicht

Topics and Lecturers

Proceedings

Tagesordnung

Poster

Anmeldung

Venue

List of Hotels

Eligibility for financial support

International Organizing Committee

COST Action "COSMIC WISPers" (CA21106)

1st General Meeting of

## Topics and Lecturers

*"Axion theory and production in the early universe"*. Lecturer: Kiwoon Choi (IBS, Daejeon). Trainer: Nicole Righi (King's College, London)

*"Axion cosmology and cosmo bounds"*. Lecturer: Ciaran O'Hare (Sidney Univ.). Trainer: Mathieu Kaltschmidt (Zaragoza Univ.)

*"WISPs from stars"*. Lecturer: Georg Raffelt (MPI, Munich). Trainer: Andrea Caputo (CERN)

*"Axion experiments"*. Lecturer: Giuseppe Ruoso (INFN, Padua). Trainer: Antonios Gardikiotis (Patras Univ.)

*"Topics in science communication"*. Lecturer: Giuliana Galati (Bari Univ.).

# On-line Events and Communication

- **Journal Club + presentation of ongoing projects**

Maria Benito Castano (Tartu Obs., EE)  
Michele Tammaro (Jozef Stefan Inst., SI)

März 2023

07. März [María Benito, "JC March - María Benito"](#)

Februar 2023

07. Feb. [Sebastian Hoof, "JC February - Sebastian Hoof"](#)

Dezember 2022

13. Dez. [Journal Club December](#)

- **Monthly Online Colloquium**

Arturo de Giorgi (Inst. De Fis. Teor, ES)  
Giuseppe Lucente (Bari Univ., IT)  
Hugo Tercas (Ist. de Plasma, Lisboa, PT)

Juni 2023

21. Juni [In search for ultralight \(pseudo\)scalars and other dark matter wannabes](#)

Mai 2023

31. Mai [Axion dark matter: A perspective for the post-inflationary scenario](#)

April 2023

17. Apr. [Neutron stars as axion laboratories](#)

März 2023

29. März [Revealing Structure in the Axiverse](#)

Februar 2023

01. Feb. [Light, Feebly Interacting Particles: Progress and Expectations](#)

- **Monthly e-mail with papers and events**

Damiano Fiorillo (NBI, Copenhagen, DK)  
Giovanni Grilli de Cortona (INFN, IT)

- **Social media (Twitter)**

- **WG meeting about every month**

- **Presenting CA21106 and science at conferences**

4 Annual Meeting COST Action CA18108, 10-14 July 2023 Rijeka KR  
Marin Karuza "Cosmic WISPers"



COST CA18108 Fourth Annual Conference - Rijeka (Croatia)

10.–14. Juli 2023  
University of Rijeka, Faculty of Physics

Geben Sie Ihren Suchbegriff ein

<https://indico.capa.unizar.es/event/31/>

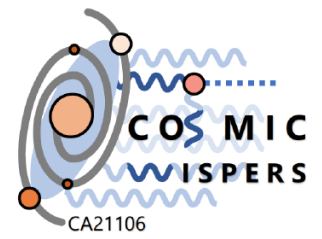
COST ACTION CA21106

COSMIC WISPers in the Dark Universe:

Theory, astrophysics and experiments

A talk completely dedicated to our COST Action!

Marin Karuza  
Rijeka University



Funded by the European Union

# On-line Events and Communication

- **Journal Club + presentation of ongoing projects**

Maria Benito Castano (Tartu Obs., EE)  
Michele Tammaro (Jozef Stefan Inst., SI)

März 2023

07. März [María Benito, "JC March - María Benito"](#)

Februar 2023

07. Feb. [Sebastian Hoof, "JC February - Sebastian Hoof"](#)

Dezember 2022

13. Dez. [Journal Club December](#)

- **Monthly Online Colloquium**

Arturo de Giorgi (Inst. De Fis. Teor, ES)  
Giuseppe Lucente (Bari Univ., IT)  
Hugo Tercas (Ist. de Plasma, Lisboa, PT)

Juni 2023

21. Juni [In search for ultralight \(pseudo\)scalars and other dark matter wannabes](#)

Mai 2023

31. Mai [Axion dark matter: A perspective for the post-inflationary scenario](#)

April 2023

17. Apr. [Neutron stars as axion laboratories](#)

März 2023

29. März [Revealing Structure in the Axiverse](#)

Februar 2023

01. Feb. [Light, Feebly Interacting Particles: Progress and Expectations](#)

- **Monthly e-mail with papers and events**

Damiano Fiorillo (NBI, Copenhagen, DK)  
Giovanni Grilli de Cortona (INFN, IT)

- **Social media (Twitter)**

- **WG meeting about every month**

- **Presenting CA21106 and science at conferences**

4 Annual Meeting COST Action CA18108, 10-14 July 2023 Rijeka KR  
Marin Karuza "Cosmic WISPer"

String Phenomenology 2023, 3-7 July 2023, Daejeon, South Korea  
Michele Cicoli "Ultra-light axions in string cosmology"



# String Pheno '23



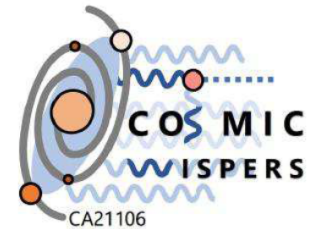
<https://indico.cern.ch/event/1270020/>

At the end of the scientific talks a dedicated slide for our COST Action!

DISSEMINATION GRANT

## COSMIC WISPerS in the Dark Universe

- Relatively new COST action:  
Start: Oct 2022  
End: Sep 2026
- Website: <https://www.cost.eu/actions/CA21106/>
- Chair: Alessandro Mirizzi (Bari)
- Vice-chair: Francesca Calore (Annecy)
- Keywords: axion and hidden photon theory - axion dark matters searches  
axion and hidden photon astrophysics - axion and hidden photon experiments
- 5 Working Groups:  
WG1: WISPs Model Building – Michele Cicoli and Ilaria Brivio  
WG2: WISPs Dark Matter and Cosmology – Vitagliano and Redondo  
WG3: WISPs in Astrophysics – Caputo and Straniero  
WG4: Direct WISPs Searches – Gatti and Karuza  
WG5: Dissemination and Outreach – Mena and Gastaldo
- Activities:  
i) Kick-off Meeting, 23-24 Feb 2023, Frascati  
ii) 1<sup>st</sup> General Meeting, 5-8 Sep 2023, Bari  
iii) 1<sup>st</sup> Training School, 11-14 Sep 2023, Lecce  
iv) Monthly WG online meetings
- Funding for:  
Short term scientific missions, Workshops, PhD Schools, .....



Funded by the European Union

→ Apply online to join WG1 + another WG (if interested)!

# On-line Events and Communication

- **Journal Club + presentation of ongoing projects**

Maria Benito Castano (Tartu Obs., EE)  
Michele Tamaro (Jozef Stefan Inst., SI)

März 2023

07. März [María Benito, "JC March - María Benito"](#)

Februar 2023

07. Feb. [Sebastian Hoof, "JC February - Sebastian Hoof"](#)

Dezember 2022

13. Dez. [Journal Club December](#)

- **Monthly Online Colloquium**

Arturo de Giorgi (Inst. De Fis. Teor, ES)  
Giuseppe Lucente (Bari Univ., IT)  
Hugo Tercas (Ist. de Plasma, Lisboa, PT)

Juni 2023

21. Juni [In search for ultralight \(pseudo\)scalars and other dark matter wannabes](#)

Mai 2023

31. Mai [Axion dark matter: A perspective for the post-inflationary scenario](#)

April 2023

17. Apr. [Neutron stars as axion laboratories](#)

März 2023

29. März [Revealing Structure in the Axiverse](#)

Februar 2023

01. Feb. [Light, Feebly Interacting Particles: Progress and Expectations](#)

- **Monthly e-mail with papers and events**

Damiano Fiorillo (NBI, Copenhagen, DK)  
Giovanni Grilli de Cortona (INFN, IT)

- **Social media (Twitter)**

- **WG meeting about every month**

- **Presenting CA21106 and science at conferences**

4 Annual Meeting COST Action CA18108, 10-14 July 2023 Rijeka KR  
Marin Karuza "Cosmic WISPers"

String Phenomenology 2023, 3-7 July 2023, Daejeon, South Korea  
Michele Cicoli "Ultra-light axions in string cosmology"

TAUP 2023, 28 August – 1 September 2023, Vienna, AT  
Loredana Gastaldo "COSMIC WISPers in the Dark Universe: Theory, astrophysics and experiments"

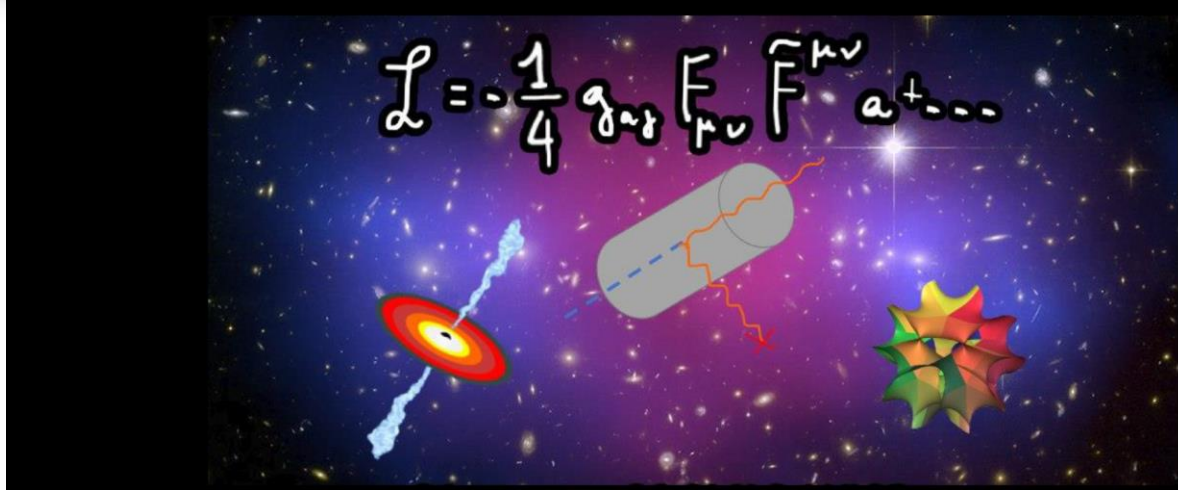

XVIII  
International Conference on  
Topics in Astroparticle and  
Underground Physics 2023

28.08. - 01.09.2023  
University of Vienna

SCROLL

<https://indico.cern.ch/event/1199289/>

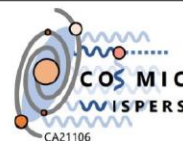
Talk fully dedicated to CA21106 with focus on outreach



$$\mathcal{L} = -\frac{1}{4} g_{\mu\nu} F_{\mu\nu} F^{\mu\nu} a^+ \dots$$

**COST Action CA21106**

COSMIC WISPerS in the Dark Universe: Theory, astrophysics and experiments



Loredana Gastaldo  
Kirchhoff Institute for Physics  
Heidelberg University



# Communication Material

## Webpage

<https://cosmicwispers.eu/>

The screenshot shows the homepage of the Cosmic Wispers website. At the top, there is a navigation menu with links: Main, The Network, Management Structure, Calls, Working Groups, Publications, Newsletter, Our Activities, and Internal. Below the menu are the logos for COST (European Cooperation in Science & Technology) and COSMIC WISPERS (CA21106). The main content area features a large banner with the title "COSMIC WISPERS in the Dark Universe: Theory, astrophysics and experiments" and a central image of a galaxy, a satellite, and a colorful starburst. Below the banner is a section titled "Participants" with a circular image of a person. At the bottom, there is a small text block: "COSMIC WISPERS is a COST Action CA21106 focuses on very weakly interacting slim ( $m < \text{GeV}$ ) particles (WISPs) which emerge in several extensions of the Standard Model of Particle Physics. The aim of this Action is an exhaustive study of these WISPs, notably axions, axion-like particles, and dark photons."

## Poster & Brochure

The poster features a dark, starry background. At the top left is the European Union flag logo with the text "Funded by the European Union". To the right is the "COST ACTION COSMIC WISPERS (CA21106)" logo. The main title is "COSMIC WISPERS in the Dark Universe: Theory, Astrophysics and Experiments". Below this, the text "Key information:" is followed by a list of details: **COST Action:** An interdisciplinary open network, offering opportunities for researchers to meet and discuss ideas. **Main Focus:** Weakly interacting slim particles (WISPs): theory, cosmology, astrophysics, experiments. **Countries:** Currently 35 countries from Europe and beyond involved. **Researchers:** Over 150 researchers involved. **Funding:** The network is funded by the COST Association (European Cooperation in Science and Technology). **Funding period:** November 2022-October 2026. **Activities:** Working Group Meetings, Training Schools and Short Term Scientific Missions. To the right, under "WORKING GROUPS", are listed: WG 1: WISPs Model Building; WG 2: WISPs Dark Matter and Cosmology; WG 3: WISPs in Astrophysics; WG 4: Direct WISPs searches; WG 5: Dissemination and Outreach. At the bottom left, there is a "Contacts" section for the Chair of the Action, Prof. Alessandro Mirizzi (Bari Univ., IT), with email and Twitter information. At the bottom right, there is a QR code and the website URL "webpage cosmicwispers.eu" with another QR code and the COST logo.

The brochure has a dark background with a central image of a galaxy, a satellite, and a colorful starburst. At the top, the equation  $\mathcal{L} = -\frac{1}{4} g_{\mu\nu} F_{\rho\sigma} F^{\rho\sigma} a + \dots$  is displayed. Below the image is the text "CA21106 COSMIC WISPERS". The main title is "COST ACTION COSMIC WISPERS (CA21106)". At the bottom, there is a section for "Funded by the European Union" with the COST logo and the COSMIC WISPERS logo. Below this is the text "COSMIC WISPERS in the Dark Universe: Theory, Astrophysics and Experiments".



# Communication Material

@ TAUP 2023



## Poster & Brochure

 **COST ACTION**  
COSMIC WISPerS  
(CA21106) 

Funded by the European Union

**COSMIC WISPerS in the Dark Universe:  
Theory, Astrophysics and Experiments**

**Key information:**

**COST Action:** An interdisciplinary open network, offering opportunities for researchers to meet and discuss ideas

**Main Focus:** Weakly interacting slim particles (WISPs): theory, cosmology, astrophysics, experiments

**Countries:** Currently 35 countries from Europe and beyond involved

**Researchers:** Over 150 researchers involved

**Funding:** The network is funded by the COST Association (European Cooperation in Science and Technology)

**Funding period:** November 2022-October 2026

**Activities:** Working Group Meetings, Training Schools and Short Term Scientific Missions

**WORKING GROUPS**

**WG 1:** WISPs Model Building

**WG 2:** WISPs Dark Matter and Cosmology

**WG 3:** WISPs in Astrophysics


**WG 4:** Direct WISPs' searches

**WG 5:** Dissemination and Outreach

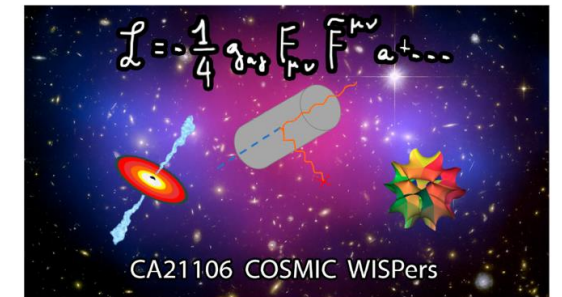
Join the Action Working Groups at:  
<https://www.cost.eu/actions/CA21106/>



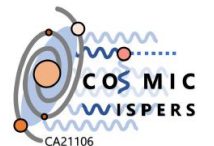
webpage  
[cosmicwispers.eu](https://cosmicwispers.eu)

**Contacts**  
Chair of the Action:  
Prof. Alessandro Mirizzi (Bari Univ., IT)  
([alessandro.mirizzi@ba.infn.it](mailto:alessandro.mirizzi@ba.infn.it))  
e-mail [cosmic.wispers@gmail.com](mailto:cosmic.wispers@gmail.com)  
twitter @CosmicWisPers



## COST ACTION COSMIC WISPerS (CA21106)

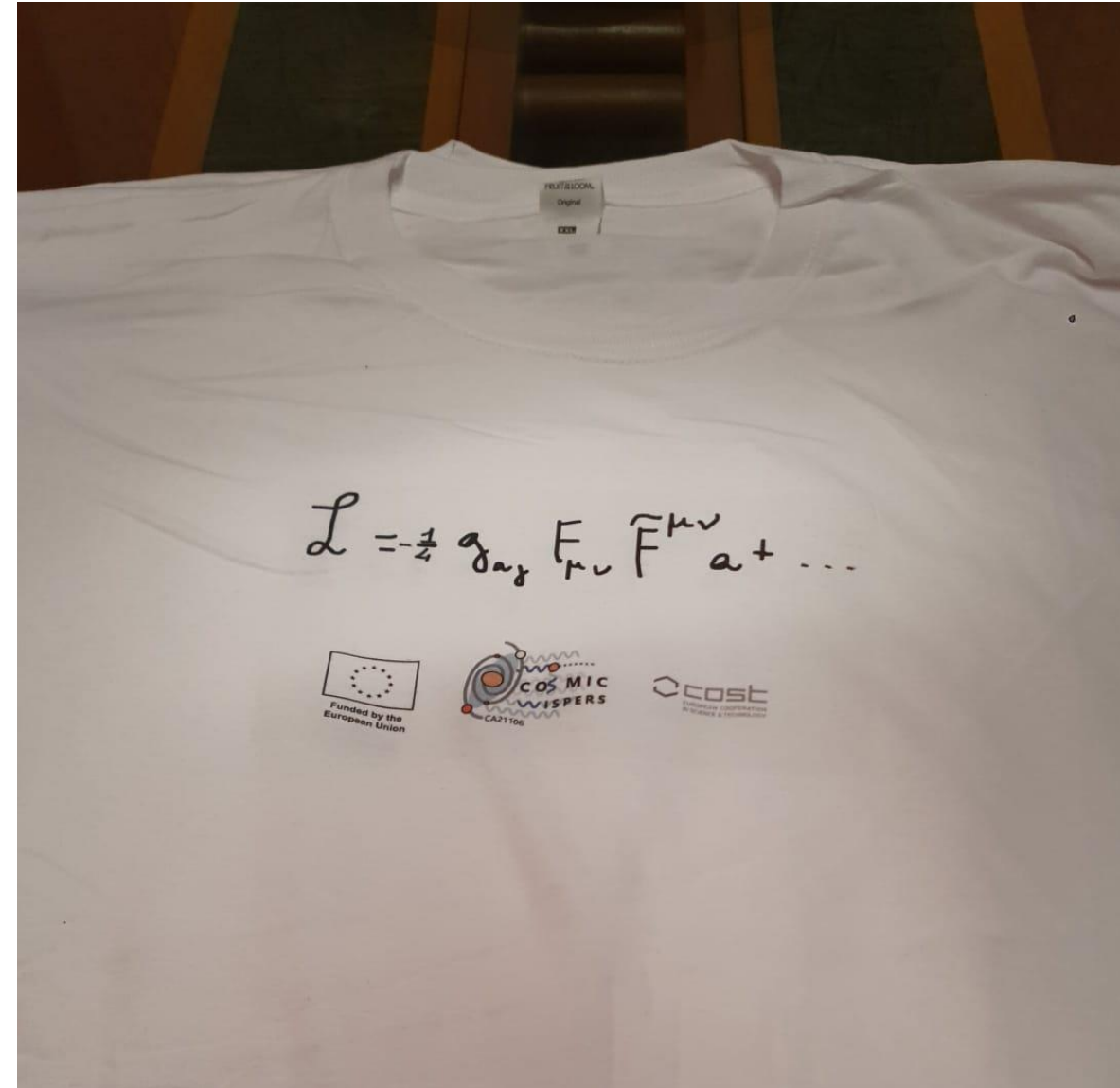


COSMIC WISPerS in the Dark Universe:  
Theory, Astrophysics and Experiments

# New ideas 1

We have wonderful T-shirt  
every axion-friend would like to have one

- **monthly quiz on WISP** on CA21106 webpage  
one person among those with correct answer  
will be extracted  
(Accumulation is not foreseen)



# New ideas 2

How to reach school

Competition with xx EUR prize to buy a scientific instrument for the school

possible topics

- prepare a short video on axion detection
- prepare a comics on axion detection

The winner will have the project posted on the webpage (or we could consider to post all....)



Symmetry Magazine

# Outlook

- We have a Science Communication Plan
- Many Communication and Dissemination items have been covered over the last months
- New ideas for outreach have been presented
- We welcome more ideas

Don't lose an occasion to acknowledge CA21106