Fellini Programme Report

Antonio Masiero – University and INFN Padova

Fellini MidTerm Review Meeting
17th November 2020

Fellini
Fellowship for Innovation at INFN

H2020 MSCA COFUND
G.A. 754496

INFN
Istituto Nazionale di Fisica Nucleare

A Hundred Years of Fellini

Fellini
Fellowship for Innovation at INFN

Fellowship for Innovation at INFN 01/01/2018-31/12/2023

1st COFUND for INFN

- 3 years full researcher contract for 30 fellows
  - 15 fellows for each of the two Calls

- Transparent recruitment
- Secondment
- Training
- Network

EU funding 3,186 MEURO
INFN co-funding 3,604 MEURO

Coordination Board

- Prof. Antonio Masiero (Coordinator) – UniPD & INFN PD
- Dr. Laura Bandiera (Project Manager) – INFN FE
- Dr. Alessia D'Orazio (Former PM and INFN EU funding Manager) – INFN BO
- Dr. Paolo Giacomelli (Marie Curie expert) – INFN BO
- Dr. Maria Rosaria Masullo (Training Courses Manager) – INFN NA
- Dr. Chiara Meroni (INFN Vice President) – INFN MI
- Dr. Pier Stanislao Paolucci – INFN Roma
- Dr. Michele Punturo – INFN PG

Fellini Office

- Dr. Laura Bandiera (Project Manager) – INFN FE
- Dr. Luisa Iacono (Financial Officer) – INFN PD
- Ms. Alessandra Lombardo – INFN PD
- Dr. Giorgia Salvato – INFN PD

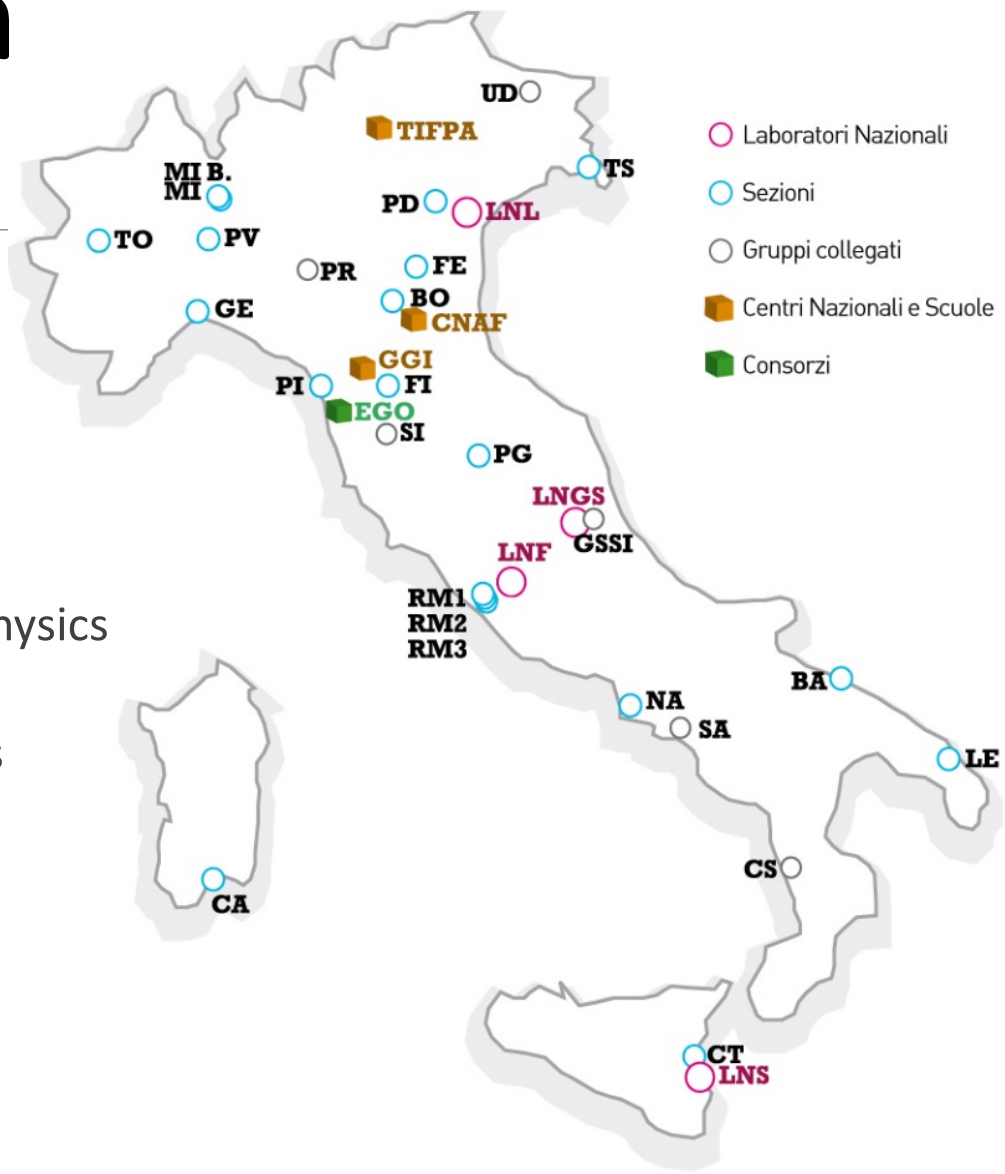
Contacts: fellini-office@lists.infn.it

Website: https://web.infn.it/fellini/

Fellini within INFN

Research lines

- Experimental Particle Physics
- Experimental Astroparticle Physics
- Experimental Nuclear Physics
- Theoretical Physics
- Technological Physics

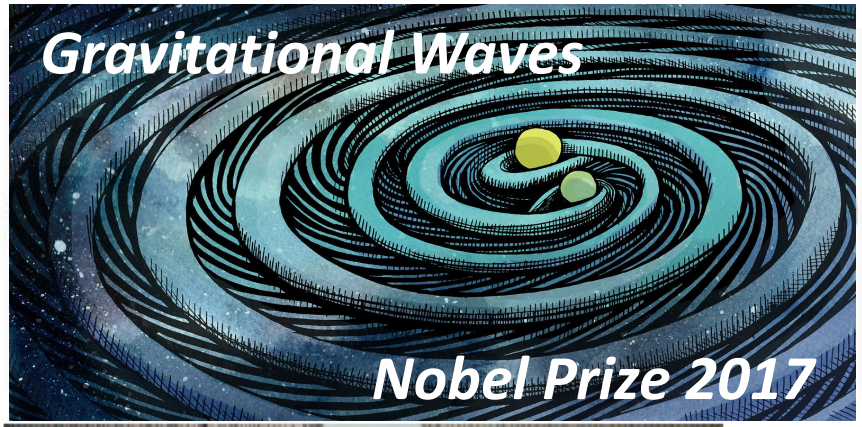


Scientific Motivation

MICRO-COSMOS

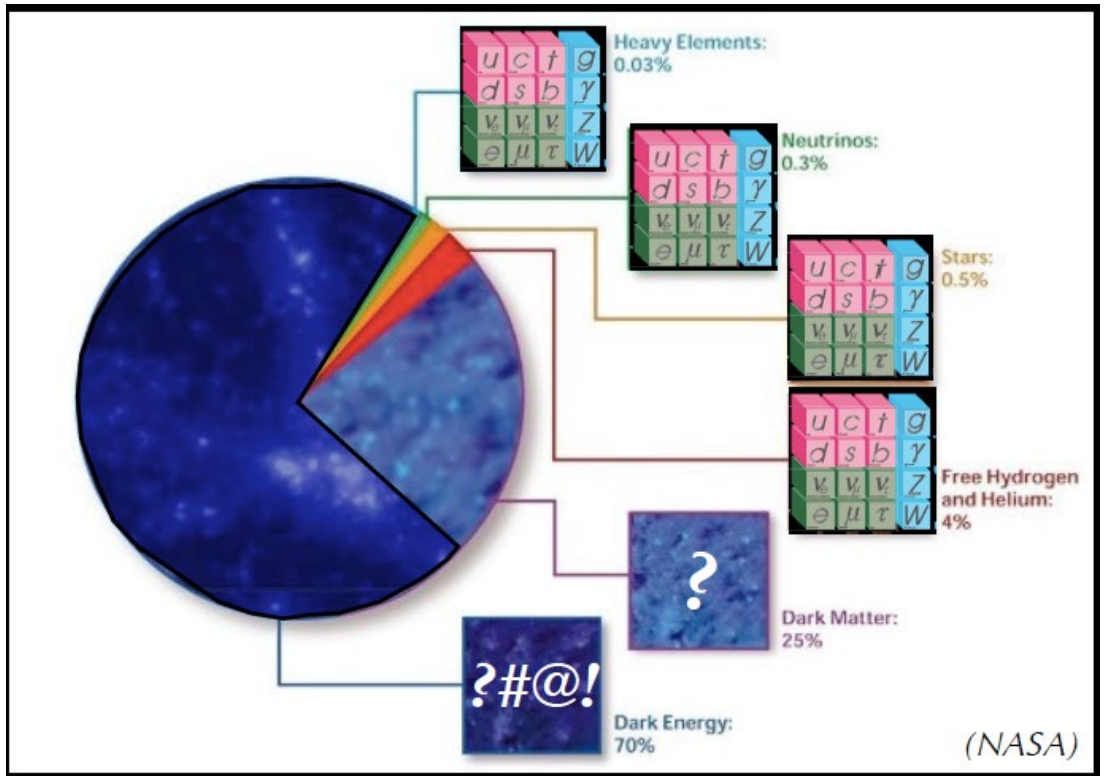
The Higgs boson and the destiny of the Universe

MACRO-COSMOS



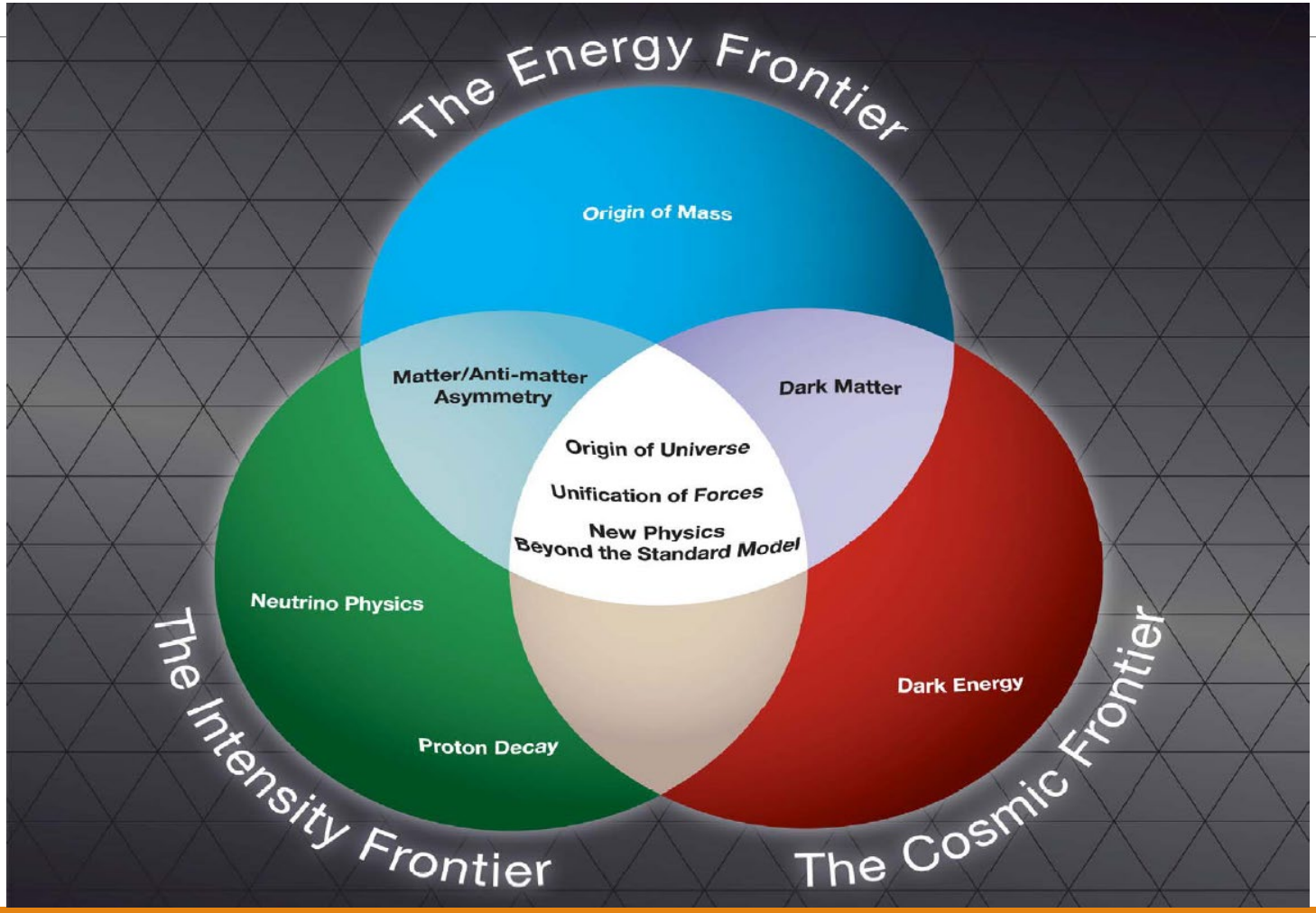
- One overarching objective of Science is **to further our understanding of the Universe**, from its early stages to its current state and future evolution.
- This depends on **gaining insight** on the universe's **most macroscopic components**, for example galaxies and stars, as well as describing **its smallest components**, namely elementary particles and nuclei and their interactions.

Still a lot to understand about our Universe



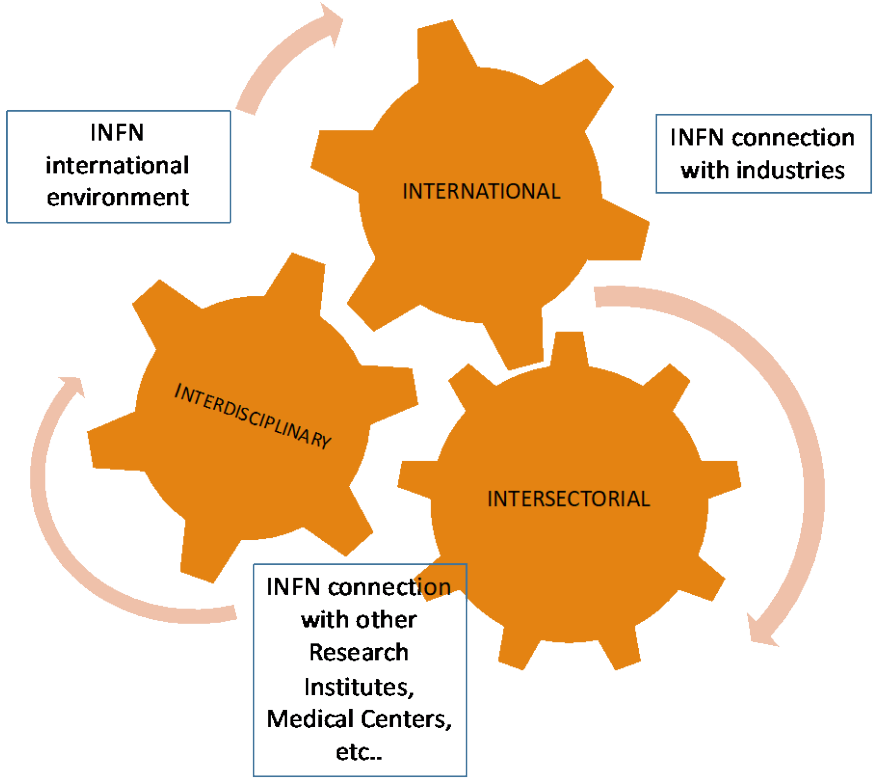
It is clear that this endeavour requires **combined expertise (theoretical and experimental) from the fields of astroparticle physics, particle physics and nuclear physics (and their technologies)**.

Scientific Areas and connections

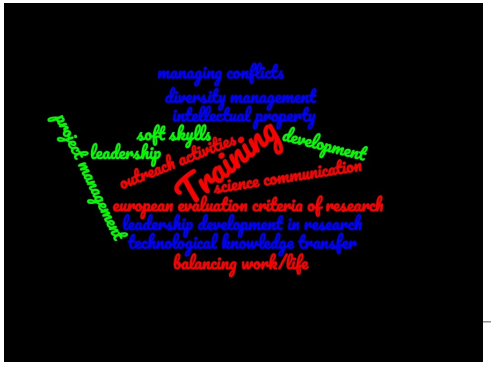


Fellini worldwide: the Secondment

- The Fellini project includes a period of secondment, **with a duration between six and twelve months*.**
- The secondment has to meet the requirements of **international**, **cross-sectoral** or **interdisciplinary** mobility.



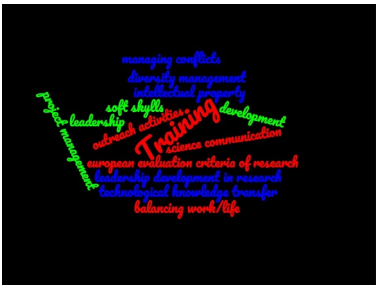
*Originally the secondment duration was 1 year.



Training: why

Desirable competences to be developed for a researcher in Europe:

- Communicate with the wider community, and with society generally, about your areas of expertise
- Train PhD researchers, helping them to become more effective and successful in their R&D trajectory
- Understand the value of your research work in the context of products and services from industry and other related employment sectors
- Improve organizational and soft skills necessary for team-based research work and for work-life balance



Training: how

Available 300 €/month for training

According to fellow needs and to enhance their professional development,

can be used for

- schools, ad hoc courses directly related to the execution of the scientific project;
- workshops or conferences regarding topics not strictly connected to the research project, but useful to develop complementary skills.

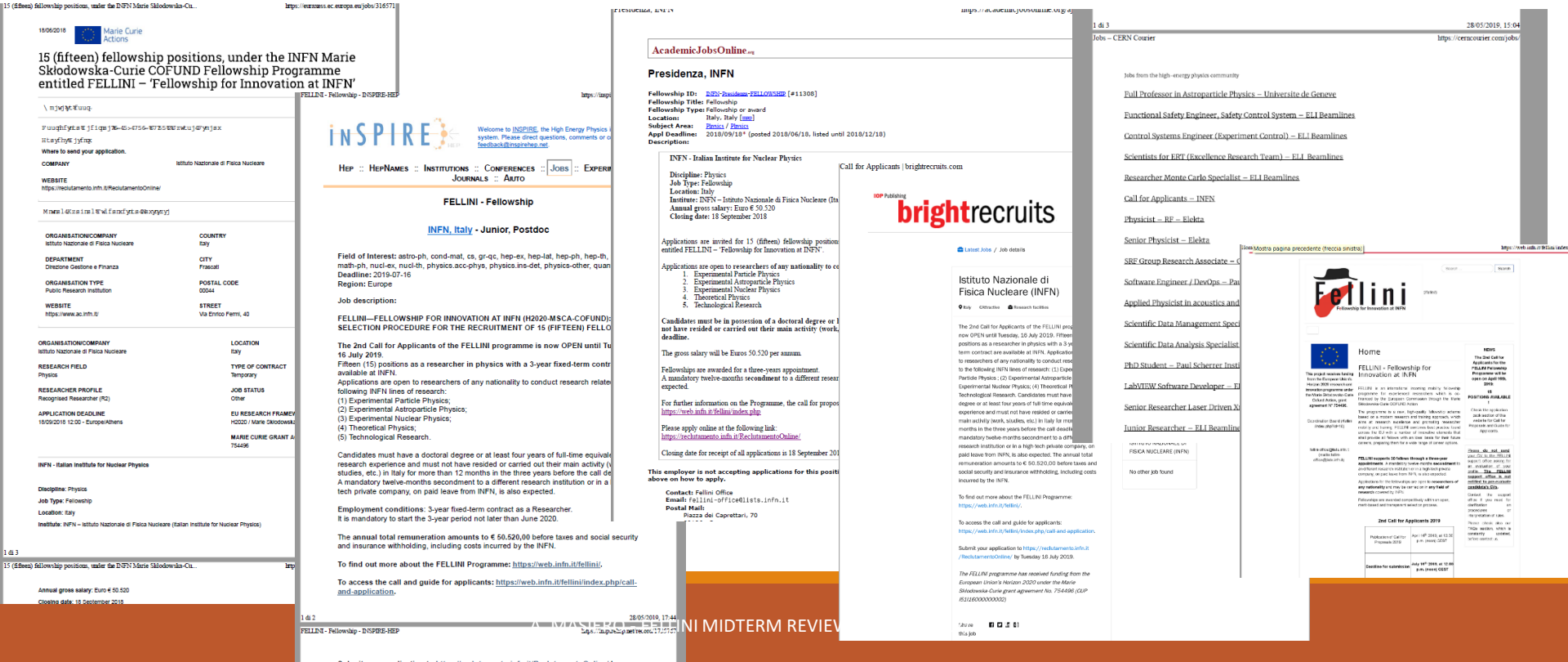
In addition to these opportunities, the fellows will have access to the **INFN National Training Plan program**. In this case all the expenses will be covered directly by the national training funds.
https://www.ac.infn.it/personale/formazione/

The national program includes different technical and scientific courses, that change every year on the basis of employees and administration requirements.

Fellini programme implementation

Recruitment: Call dissemination

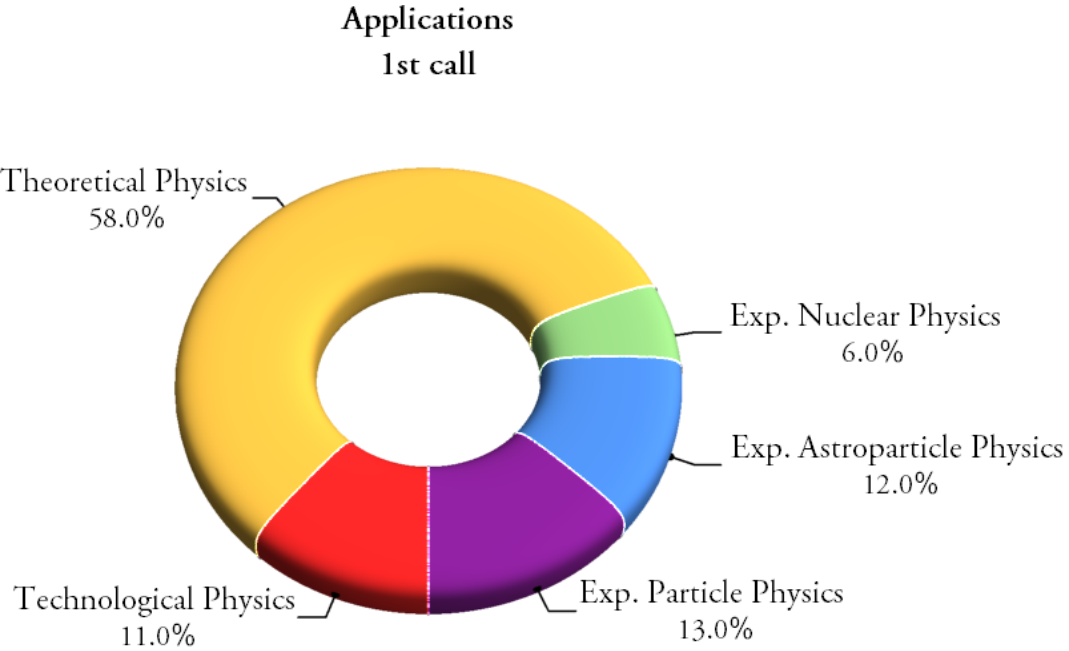
The FELLINI calls for applicants were extensively advertised to reach the widest possible international target group of candidates. The dissemination was done weeks in advance of the call deadline to ensure that applicants had sufficient time to prepare the application.

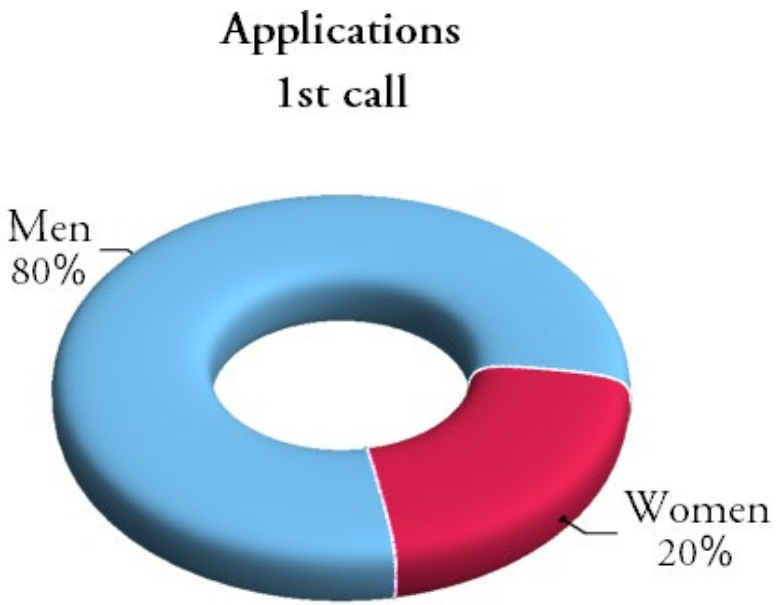


Recruitment: Applications

1st FELLINI call: 210 applications from 32 different nationalities

(196 eligible, **success rate 7.6%)**

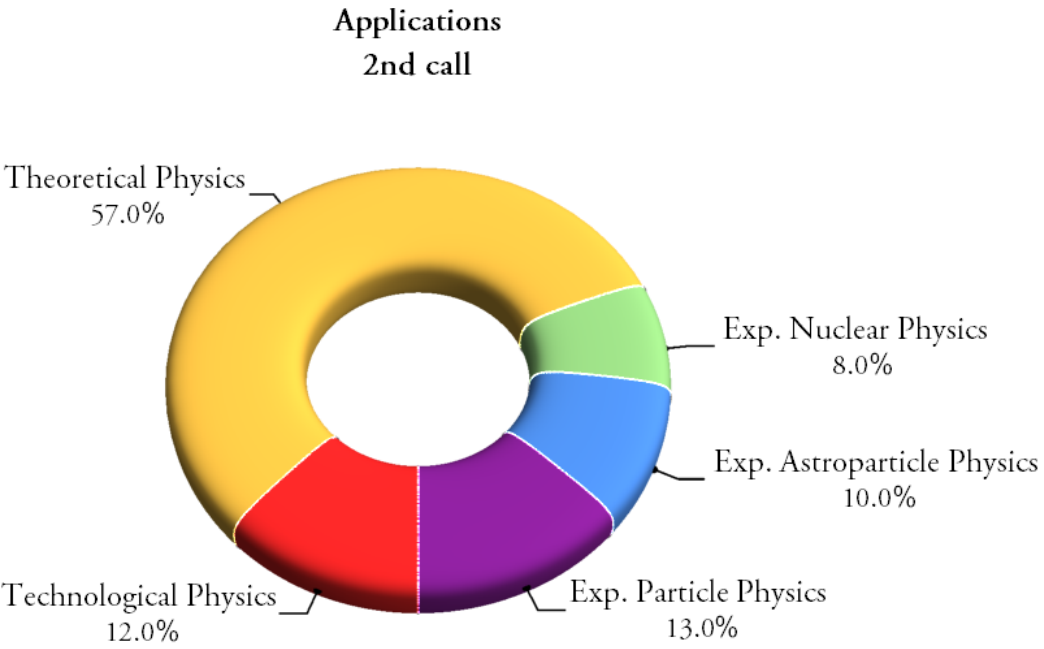


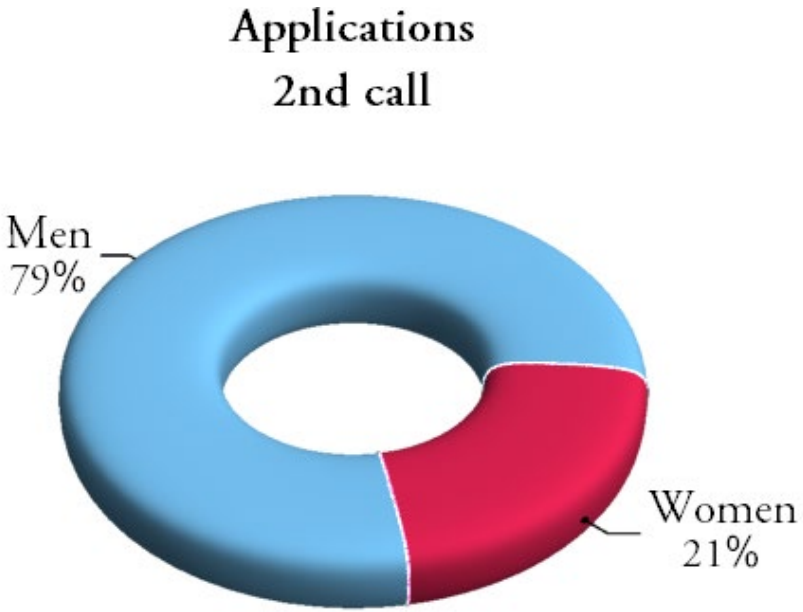


Recruitment: Applications

2st FELLINI call: 231 applications from 47 different nationalities

(215 eligible, **success rate 7%)**





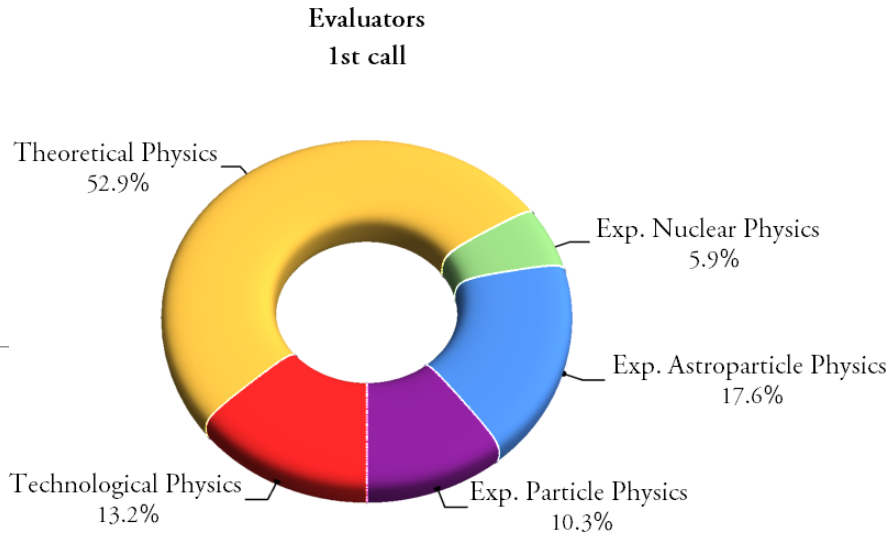
Recruitment: Applications

1st Call
ITALY 63
Other EU 54
NON-EU 93

2st Call
ITALY 77
Other EU 56
NON-EU 98

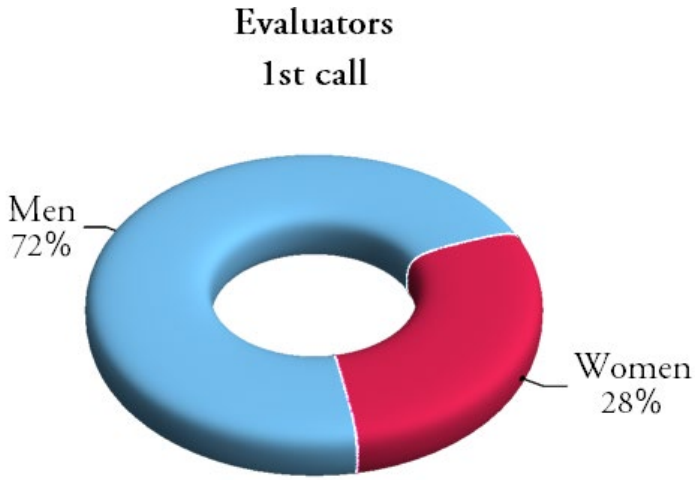
Recruitment: Applications

Recruitment: Evaluation



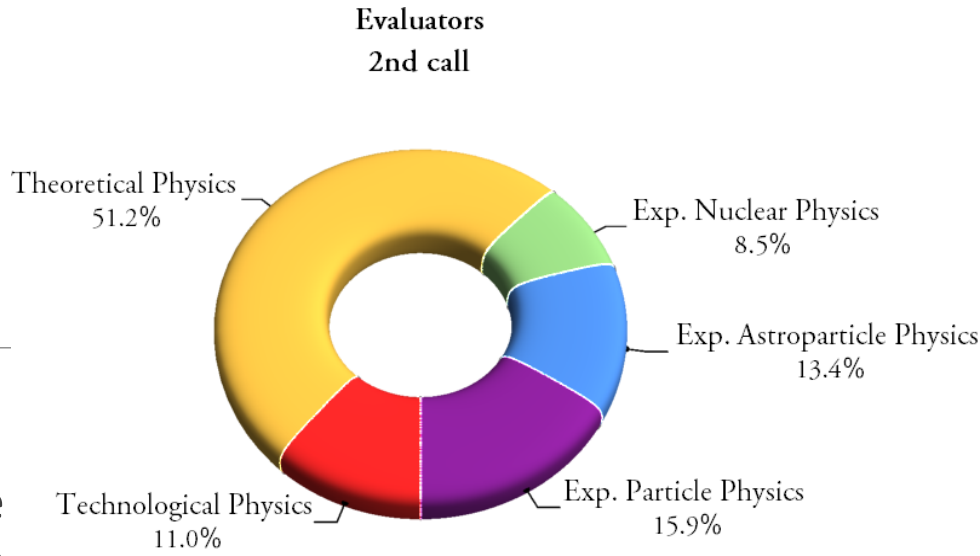
The high number and the wide range of research fields of the candidatures made necessary a deviation from the GA Annex 1 in order to smoothly and efficiently implement the evaluation.

A panel consisting of a Chair and six Vice-Chairs (one for each research line plus an additional one for 'Theoretical Physics' due to the high number of applications in this area) for the **identification of expert evaluators (at least 3 per projects).**



1st Call:
68 experts (18 INFN, 24 ITA Uni, 26 World)
average n. of projects per expert: 8.6

Recruitment: Evaluation



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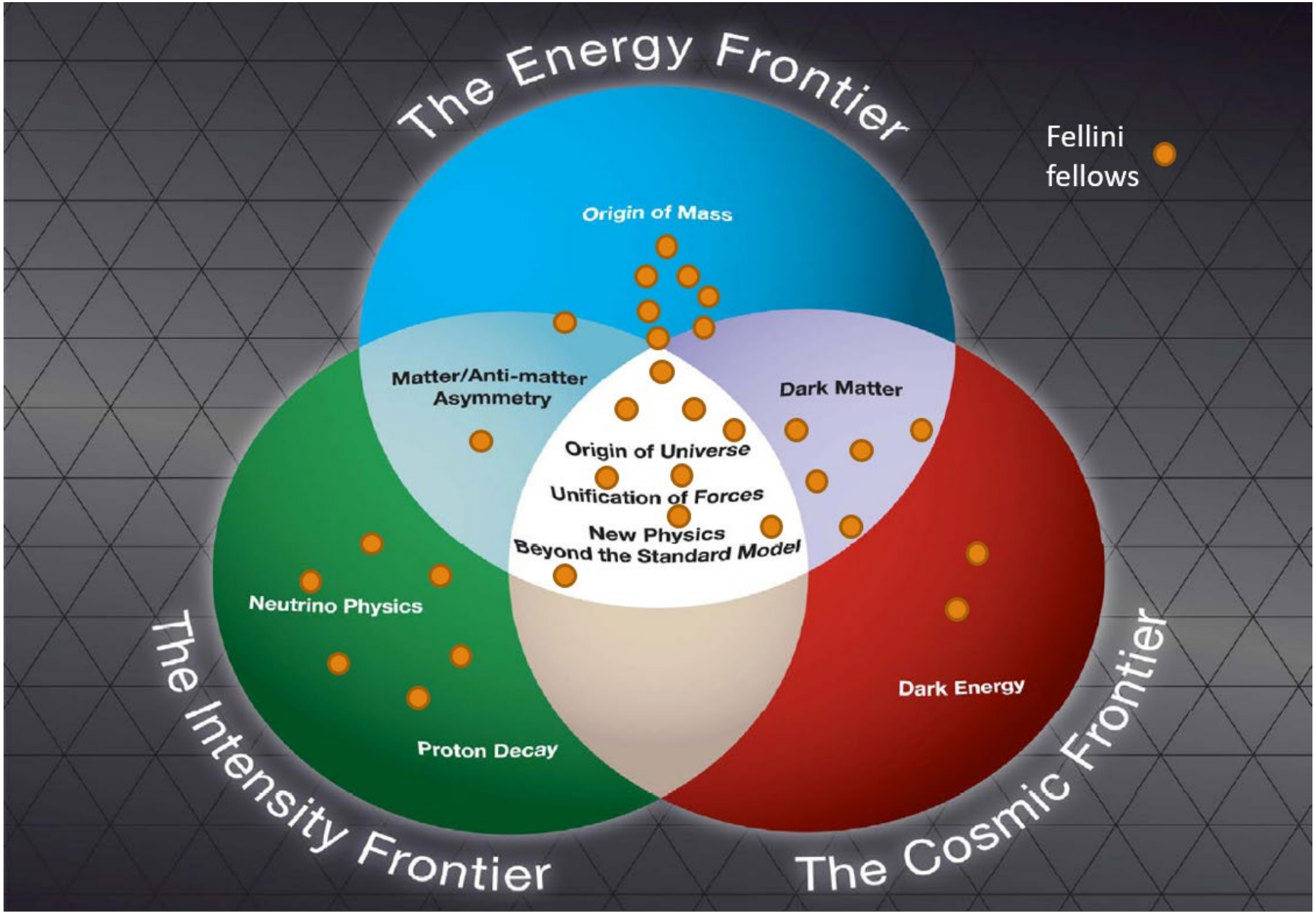
2nd Call:
82 experts (24 INFN, 28 ITA Uni, 30 World)
average n. of projects per expert: 7.9

Fellini fellows

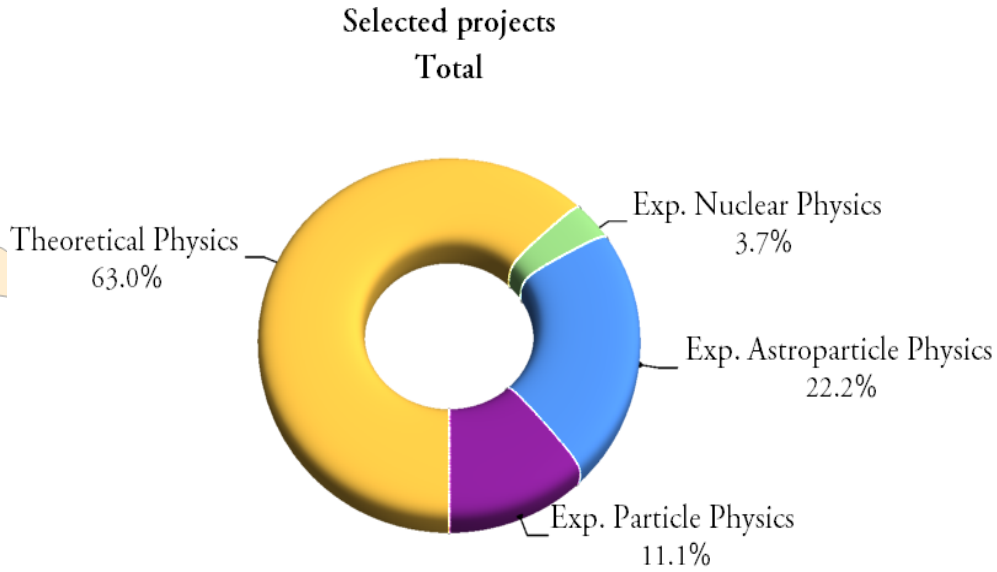
Giovanni Benato (Italy)
Lorenzo Bianchi (Italy)
Nello Bruscino (Italy)
Ruggero Caravita (Italy)
Leandro Javier Cieri (Argentina)
Mattia Di Mauro (Italy)
Michele Faucci Giannelli (Italy)
Marco Fazzi (Italy)
Guillem Domènech Fuertes (Spain)
Federico Galli (Italy)
Stefano Gariazzo (Italy)
Marco Grassi* (Italy)
Claudia Hagedorn* (Germany)
Manoj Kumar Mandal (India)
Mathieu Sylvain Lamoureux (France)
Michael Alexander Leyton (USA)
Ruben Lopez Coto (Spain)
Yiannis Makris (Cyprus)
Ugo Marzolino (Italy)
Carlo Meneghelli (Italy)
Giuseppe Messineo (Italy)
Alessandro Pilloni (Italy)
Jacopo Pinzino (Italy)
Francesco Puosi (Italy)
Pietro Rotondo (Italy)
David William Sutherland (UK)
Leonardo Vernazza (Italy)
Itamar Yaakov (Israel)
Luca Visinelli (Italy)

** Left for a permanent position*


The Energy Frontier
Fellini fellows
Origin of Mass
Matter/Anti-matter Asymmetry
Dark Matter
Origin of Universe
Unification of Forces
New Physics Beyond the Standard Model
Neutrino Physics
Proton Decay
Dark Energy
The Intensity Frontier
The Cosmic Frontier

Fellini fellows: some statistics

27 fellows at the moment (9 non Italians)
2 left for a permanent position (1 non Italian female)



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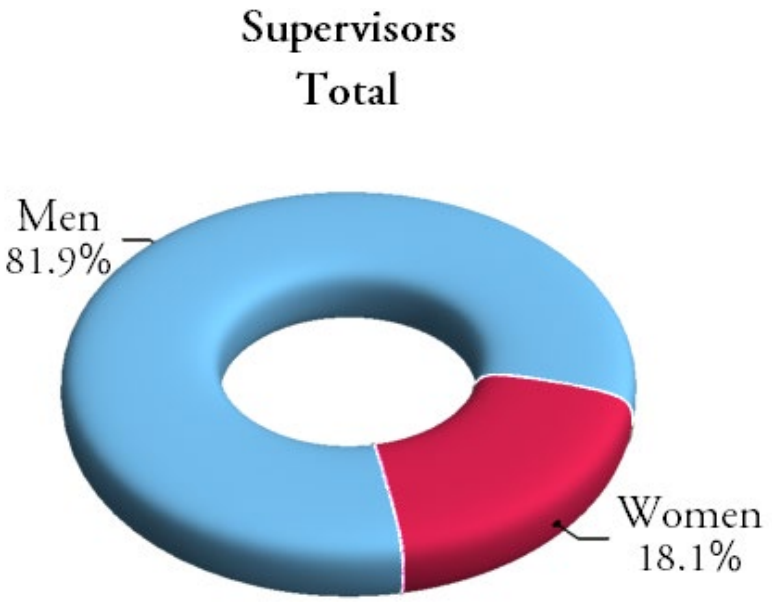
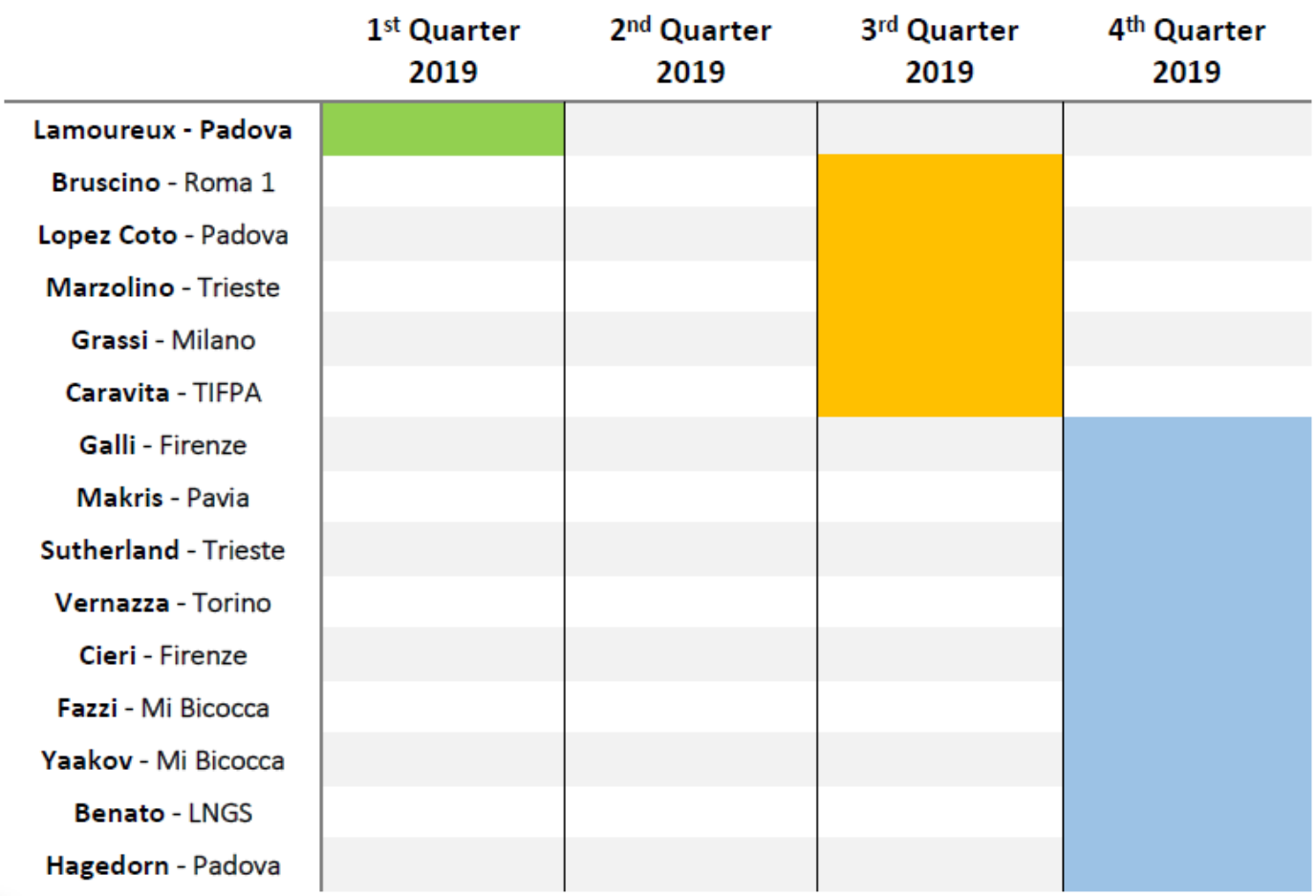
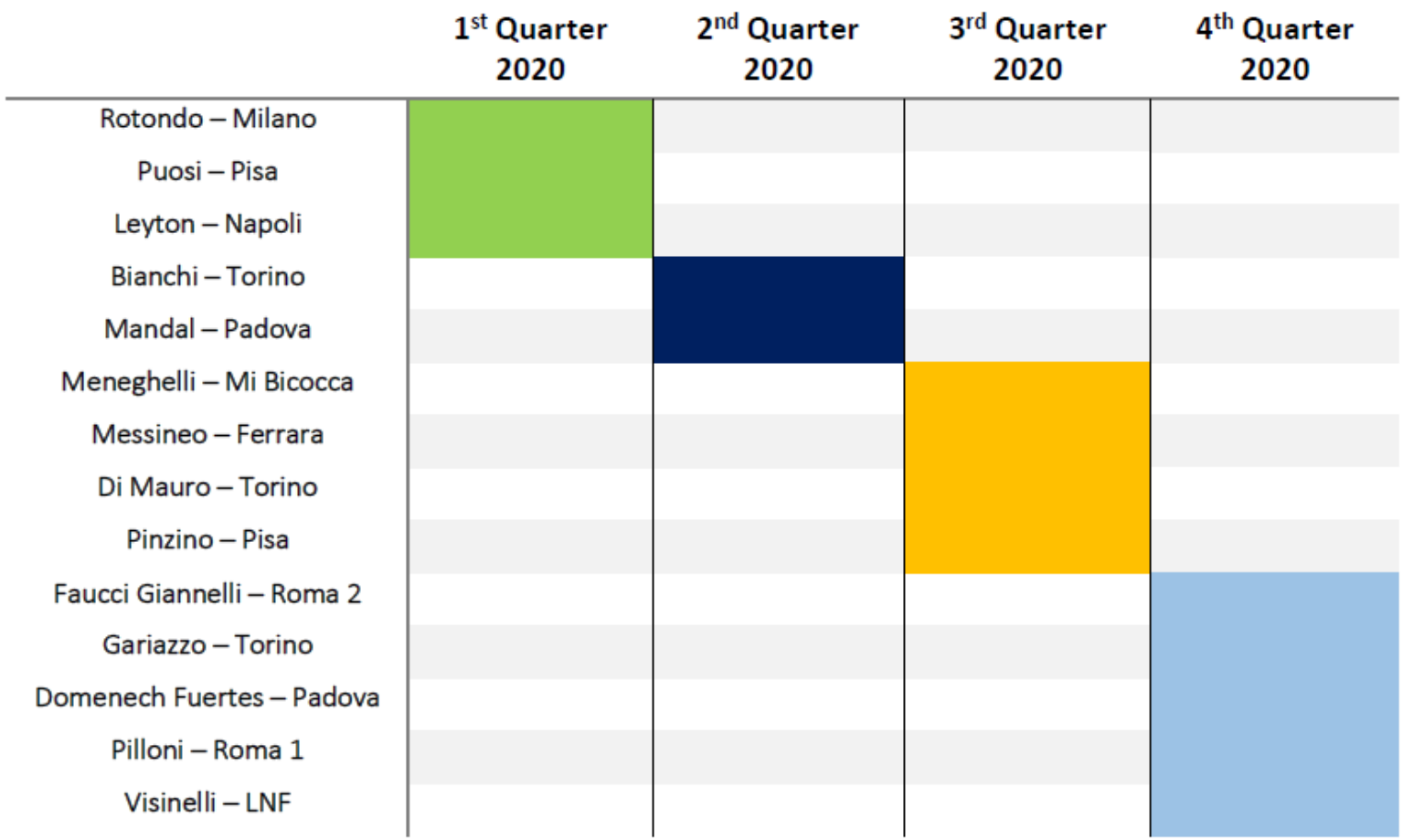


Fellini fellows : starting date 1st Call



Fellini fellows : starting date 2nd Call



Fellini scientific network

- **Annual meetings**:
  - **24-25.02.2020** First general meeting of the Fellini programme
  - **Jan 2021** Second general meeting of the Fellini programme
- **Meetings to present the Fellini Programme**:
  - **27.09.2019** Fellini meeting with supervisors of the 1st Call
  - **13.05.2020** Fellini meeting with supervisors of the 1st and 2nd Calls
  - **03.07.2020** Fellini meeting with fellows of the 2nd Call
- **Meetings on selected Scientific Topics**:
  - Since at the beginning of 2021 all the fellows will have taken service, we plan to organize small meetings on selected topics to **involve experimental and theoretical fellows working on similar subjects.**

*Already done

*Future activities

Dissemination of fellows' scientific results

Home About Science Project News Outreach & Education

cta cherenkov telescope array

Announcement
2019-December-05

The LST-1 Detects its First Gamma-Ray Signal

PHYSICAL REVIEW LETTERS

Highlights Recent Accepted Collections Authors Referees Search Press About Staff

Beyond the Storage Capacity: Data-Driven Satisfiability Transition

Pietro Rotondo, Mauro Pastore, and Marco Gherardi
Phys. Rev. Lett. **125**, 120601 – Published 14 September 2020

Springer Link

Regular Article - Theoretical Physics | Open Access |
Published: 23 September 2020

Mixed QCD⊗QED corrections to exclusive Drell Yan production using the q_T -subtraction method

Leandro Cieri, Daniel de Florian, Manuel Der & Javier Mazzitelli

Journal of High Energy Physics **2020**, Article number: 155 (2020) | Cite this article

Cornell University

arXiv.org > hep-th > arXiv:2008.04823

High Energy Physics - Theory

[Submitted on 11 Aug 2020]

Decomposition of Feynman Integrals by Multivariate Intersection Numbers

Hjalte Frellesvig, Federico Gasparotto, Stefano Laporta, Manoj K. Mandal, Pierpaolo Mastrolia, Luca Mattiazzi, Sebasti

Dissemination & Network

INFN PADOVA

HOME LA SEZIONE RICERCA DIVULGAZ

studio di nuclei galattici attivi e lampi di raggi gamma (GRB – gamma-ray bursts) in galassie molto lontane.
Il prototipo del grande telesocopio LST-1 dovrebbe diventare il primo telescopio di CTA una volta competata la revisione critica del progetto che decreta lo strumento "formalmente accettato" dall'Osservatorio CTAO (CTAO).
Il contributo Italiano a LST è significativo ed articolato. Il Gruppo di Padova (INFN e Dipartimento di Fisica e Astronomia) ha contribuito alla progettazione concettuale del telescopio LST in particolare nella messa a punto del disegno ottico e della superficie riflettente con il Prof. Mosè Mariotti e il prof. Michele Doro del Dipartimento di Fisica ed Astronomia dell'Università di Padova insieme al gruppo del Max Plank Institute di Monaco.
Nella realizzazione del primo telescopio Padova ha costruito parte della meccanica di movimentazione azimutale (carrelli), le funi in fibra di carbonio per il sostegno e l'ancoraggio dell'arco che supporta la camera. Ha anche dato (e sta dando tuttora) un forte contributo alla realizzazione del software e alle strategie di analisi dati, è padovano infatti il coordinatore del software di analisi dati di LST: Dr. Rubén Lopez-Coto, ricercatore del progetto "Fellini" della Sezione INFN di Padova (Marie Skłodowska-Curie grant n. 754496).

- News
- Fellows Projects
- Meetings
- Job Opportunities
- Useful links

slack

Sign in to Fellini Cofund

fellinicofund.slack.com

Training promoted inside the Programme

A first training on Public Engagement (webinar)
(September 10-11)
The main aim of the program is to provide an initial support to the early career researchers in public engagement activities, as outreach, research communication and school interactions to better connect the work of research institutes and universities with society.
Includes a theoretical and a practical part.

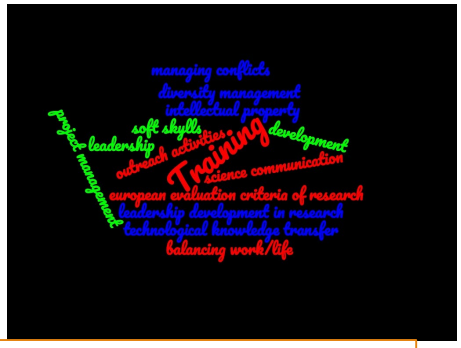
Our courses are open to other INFN researchers

21 registered : 15 fellows
- Fellows not yet employed could follow the course

The evaluation was good: further study days could be organized in the future in presence.

Use the INFN network ⟷ ***Course proposed in collaboration with INFN Central Communication Office***

Training promoted inside the Programme



Training on European Research Project Design - A focus on ERC (webinar) (December 3-4 2020)

The main aim of the program is to provide an initial support to launch young fellows in the preparation of European research projects with a special focus on ERC – European Research Council Includes a theoretical and a practical part.

Course proposed in collaboration with INFN External Fund Division

erc
European Research Council
Established by the European Commission

Training on Intellectual Property and Technology Transfer
(*Course proposed in collaboration with INFN for Technological Transfer Office and Committee)*

Training on Project Management

Fellini Outreach

- Participation as Marie Curie Fellows to the European Researchers' Night;
- Selected projects/fellows for interviews to be publised on *Asimmetrie* or on Youtube;
- Some Fellows will be included in Central Outreach activities (e.g. webinar, interviews);
- Each fellow will have the opportunity to participate to his/her INFN Division activities.

8/11/2020 [as] traiettorie - La strada.

asimmetrie.it
rivista dell'Istituto Nazionale di Fisica Nucleare
INFN
[as 28] origini

[as] traiettorie

La strada.

di Francesca Mazzotta

"La fisica mi ha appassionato fin da quando ero bambino. Mi ha sempre incuriosito capire come fenomeni che osserviamo nella vita di tutti i giorni possano essere studiati e previsti con estrema precisione ricorrendo semplicemente alla matematica e alla logica." Inizia così il racconto di Yiannis Makris, giovane fisico teorico che ha da poco iniziato a lavorare presso la sezione Infn di Pavia grazie a Fellini, un innovativo programma di *fellowship* cofinanziato dalla Commissione Europea e dall'Infn.

[as]: Negli ultimi dieci anni hai lavorato in tre paesi diversi, che cosa ti ha portato in Italia?

[Yiannis]: Dopo aver studiato fisica a Cipro, il mio paese, ho deciso di iscrivermi a vari programmi di dottorato negli Stati Uniti che offrivano molte opportunità di carriera post-laurea e sostegno finanziario per coprire spese di vita, studio e ricerca. In più, mi affascinava l'idea di andare a vivere in un altro paese. Così nel 2012 ho iniziato il mio dottorato presso la Duke University in North Carolina, a cui è succeduta un'esperienza nel gruppo di fisica nucleare e delle particelle del Los Alamos National Laboratory. Dopo sette anni negli Stati Uniti però avevo voglia di sperimentare una scuola di pensiero diversa che potesse arricchire la mia visione della ricerca. E su un sito web di annunci di lavoro accademici ho scoperto il programma Fellini. Quando mi sono imbattuto in questa opportunità, conoscevo già il gruppo di Pavia composto da scienziati molto apprezzati negli Stati Uniti, e collaborare con loro mi è sembrata un'ottima occasione per crescere come ricercatore. La scelta non è stata però solo professionale, in Italia sono più vicino a Cipro sia fisicamente sia

(/cache/images/28/INFN_Asimmetrie28_R4_fig1_800x800 equal.jpg)a.
Yiannis Makris.

https://www.asimmetrie.it/as-traiettorie-la-strada 1/4

Outreach opportunities @INFN

inside local structures or coordinated at central level

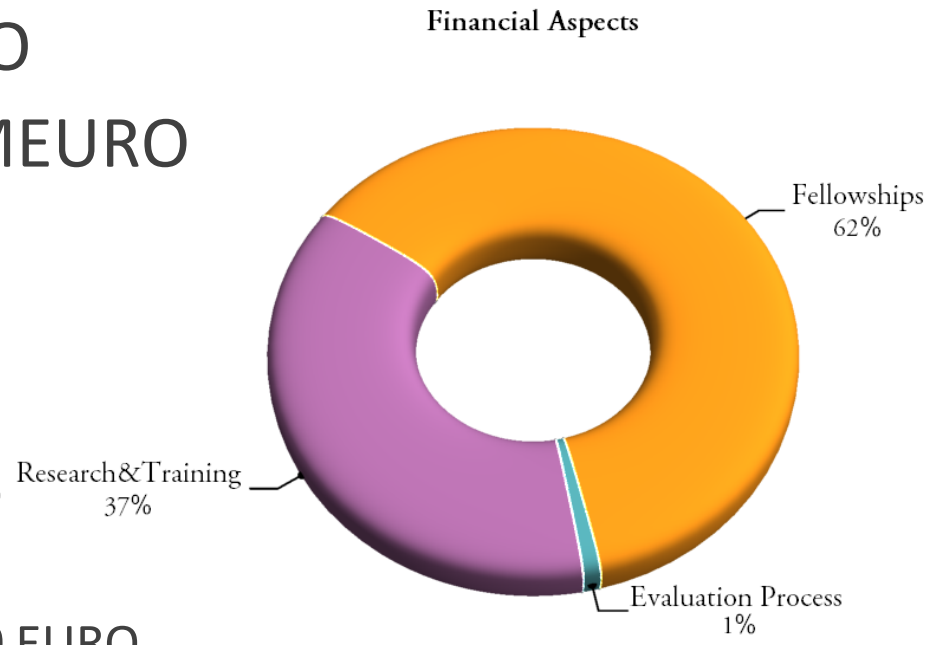
And much more… ERN, MasterClass, Open Labs, Pint of Science, etc..

https://web.infn.it/CC3M/index.php/it/attivita-e-ricerca

Financial Aspects

EU funding 3,186 MEURO

INFN co-funding 3,604 MEURO

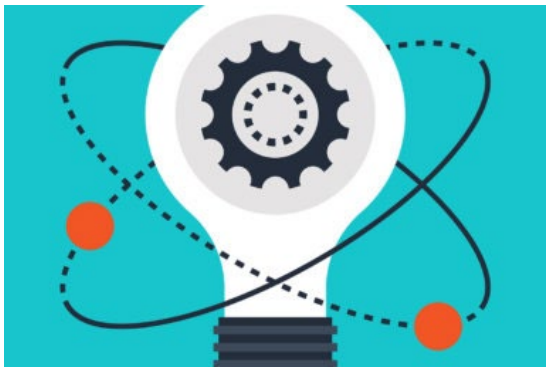


Total INFN funds:

- Evaluation Process 47.915 EURO
- Fellowships 2.222.640,00 EURO
- Research&Training 1.333.200,00 EURO

We foresee an additional contribution for the secondment mobility

Fellow's Budget



- **Research funds**
  - **Theo. fellows: ≈ 0.8k€/month;**
  - **Exp. fellows: ≈ 1.2k€/month.**

The fellows may have access to other INFN funds assigned to collaborations in which their research project is pursued.

- **Training funds** (0.3 k€/month)

- **Travel refund to INFN work location**

Implementation of the secondment

- Research and training yearly budget will also be available during the secondment and the research funds can be used for the travel costs related to the secondment.
- During the leave the fellow will continue receiving the same salary from INFN.
- A subsistence (e.g., additional salary, reimbursement of expenses..) can be provided by the hosting institution/company.
- A further mobility allowance of a maximum of 4.980 euro (total gross value) can be provided.

Summary of the reorientation of the activities

- **Selection**: Appointment of a Panel of Chair and Vice-Chairs
- **Project extension** (1 year) : to finalize the hiring process for the 2nd Call, also given the COVID pandemic travel restrictions
- **COVID pandemic impact on the research training activities**:
  - The March-April lockdown caused some delay in experimental activities
  - Some delays in experimental activities in International Labs
  - Most of the scientific work is carried out remotely
- **Mitigation of the COVID impact on the Fellini Programme:**
  - Online Meetings/Training courses
  - More flexible rules and additional support for the secondment due to the travel restrictions

Future Activities

- **Training**: ERC writing, Project Management and Technology Transfer and Mentoring
- **Meetings:** Annual and «Selected Topic» Meetings
- **Secondments planning and implementation**
- **Fellini dedicated Outreach and Dissemination**

Thanks for your attention