**Template DISCO**

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| --- | --- | --- | --- |
| **Work package number** | WP2 | **Start date** | 01/06/2019 |
| **Activity Type** | Communication and Dissemination |
| **Work package acronym** | DISCO |
| **Work package title** | Dissemination and Communication |

1. Work carried out and overview of progress

*[Please give an overview of the project objectives for the third reporting period (June 2022 – July 2024), with regard to the overall objectives as described in the Annex 1 of the Grant Agreement and summarized below.]*

* 1. **Project objectives**

During the third reporting period the main objective of the DISCO Work Package was to continue to promote and realize efficient and targeted dissemination, exploitation of results and communication activities resulting from the dedicated research and transnational activities performed within STRONG-2020.

DISCO is a transversal and integrated activity, which involves and addresses all the other WPs of the project. The overarching objective of DISCO during this period was to promote and realize dissemination and communication of the results coming from the STRONG-2020 project, by using various methods, actions and platforms, towards:

* the scientific community of specialists active in the field of hadron physics: DISCO presented the main results coming from the project activities during the reporting period, as well as the opportunities and outcomes from the research infrastructures dedicated to the strong interaction studies, both within the researchers community directly involved and participating in the project, as well as to those researchers active in hadron physics but who are not directly involved in the STRONG-2020 project;
* the wider scientific community: DISCO disseminated the main results coming from the project activities and the research infrastructures to researchers who are not directly involved in research in strong interaction physics
* the general public, industry representatives and policy makers: in this framework DSCO disseminated the main results coming from the project activities and the research infrastructures with the aim of raising the awareness about this type of research and related infrastructures, to promote a new generation of scientists and enhance future financing opportunities.

**1.2 Progress made during the reporting period towards objectives**

*[Please describe the progress made during the third reporting period in line with your Gantt chart and the project overall tasks as described in the Annex 1 of the Grant Agreement and summarized below.]*

***Table 1.2: Progress made during the reporting period towards objectives***

|  |
| --- |
| ***Task 1: Realization of activities with impact on the scientific community of specialists in strong interaction physics*** |
| During the reporting period the DISCO activities were organized and coordinated by the STRONG-2020 Dissemination Board (DB) representing the various research areas and industries present in the project, as a continuation of the activities started and active in the previous reporting period. All the dissemination and communication activities were discussed within regular (about one per month) DB meetings; in particular, during the reporting period, an overall number of 22 DB meetings were held online; all these meetings have associated Minutes.Considering the high number of researchers involved in STRONG-2020 (more than 2500) and an even larger community studying the strong interaction but not directly participating in STRONG-2020, it was very important to have an efficient tool for disseminating the news/achievements/activities towards the scientific community. In this context, the events and achievements coming from the STRONG-2020 activities were timely disseminated to the hadron physics community, both the one directly involved in STRONG-2020 project, as well as that of those researchers not directly involved in the project. The main tool used for extended dissemination was the continuous implementation and updating of the STRONG-2020 project dedicated web page:<http://www.strong-2020.eu/>with the news, events and activities and results coming from the project.The web-page contains an updated description of the project and useful information related to the activities with impact on the scientific community of specialists in strong interaction physics. This web page contains information related to the whole project, with updated details provided by WP leaders, containing a description of events (including meetings), participants, news and documents and was a very useful instrument for all the STRONG-2020 community.The section of events was updated and enriched continuously during the reporting period, and presently contains information regarding the organized meetings, divided in categories reflecting the project activities: Heavy Ions; GPD/TMD/PDFs; Hadron physics; Lattice QCD; Precision Physics.The STRONG-2020 web-page was also a useful dissemination instrument for the community of specialists in strong interaction physics, beyond the community strictly involved in STRONG-2020 project.In the reporting period the DB organized, coordinated and promoted the following dissemination activities with impact on the scientific community of specialists in strong interaction physics: - we have prepared and published a STRONG-2020 Newsletter, in May 2023, containing scientific information, dissemination information, interviews and news coming from STRONG-2020 WPs .These newsletter was published on the dedicated STRONG-2020 web-site under News and Documents:<http://www.strong-2020.eu/news-documents/newsletter.html>This Newsletter contained as main articles:* Report on the 2022 edition of the STRONG-2020 Annual Meeting: a new stage of return to normal operation and impressive results
* A featuring article: LHCb goes to fixed target
* A second featuring article: Kaonic atoms at the DAΦNE collider with the SIDDHARTA-2 experiment
* News and updates on various WPs
* Public dissemination infos
* An Interview to Dr. Mostafa Hoballah, Researcher of STRONG-2020 WP23 (JRA5)

We have widely publicized the Newsletter within the community of specialists in strong interaction physics and to the wider scientific community.Another very important activity in the reporting period was the organization of the final Workshop of STRONG-2020: Present and Future Perspectives in Hadron Physics, for which the DB was playing a fundamental role, being active in the Organizing Committee.The Workshop was organized in the period 17-19 June 2024 and held at INFN-LNF at Frascati.All information related to the workshop can be found at the dedicated web-site:<https://agenda.infn.it/event/38467/overview>84 participants were registered to the workshop:<https://agenda.infn.it/event/38467/registrations/participants>both from STRONG-2020 as well as from the enlarged scientific community.The timetable can be found at:<https://agenda.infn.it/event/38467/timetable/#20240617>while the list of contributions:<https://agenda.infn.it/event/38467/contributions/>Two competitions were organized and held in correspondence with the workshop:Best Young Talks researchers’ award, for which info can be found at:<https://agenda.infn.it/event/38467/page/9103-best-young-researchers-talk-award>as well as a photo competition, with information at:<https://agenda.infn.it/event/38467/page/9104-strong-2020-best-picture-award>The DISCO team was extremely active during the reporting period in organizing, working constantly for more than one year, setting up the venue, publicizing the event, selecting the contribution talks, chairing sessions, organizing the social events and awards, as well as publicizing the outcome of the workshop, etc.Within the project in the reporting period a total number of 131 scientific articles were published, with impact on the strong interaction community.  |
| ***Task 2: Realization of activities with impact on the wider scientific community, such as (but not limited to): publications of the general findings of the project in top journals, participation to conferences and workshops attended by a broad scientific audience; exploration of dissemination channels offered by participating Institutions*** |
| A series of activities with impact on the wider scientific community were organized and coordinated by the STRONG-2020 DB. The main platform for providing information to the wider scientific community on STRONG-2020 project was the STRONG-2020 web-page, which contains useful information not only for the STRONG-2020 community, but also for the broader scientific community and was publicized by the members of STRONG-2020 also outside of the restricted STRONG-2020 communityWithin STRONG-2020 a total number of 131 scientific articles with impact on a wider scientific community were published in peer-reviewed journals.  A very successful instrument to disseminate the STRONG-2020 activities and results in the reporting period was the online dissemination channel offered by ECT\* which was broadly used:https://www.ectstar.eu/and where the STRONG-2020 Newsletter and other outreach documents were (re)posted; workshops, seminars and colloquia organized with STRONG-2020 support were also regularly posted.During the reporting period the Newsletter (see Task 1) which contain information impacting on a broader scientific community were publicized by the STRONG-2020 community towards the wider scientific community.One of the main activities with impact on the roader scientific community was the final workshop of STRONG-2020, Present and Future Perspectives in Hadron Physics, which was addressed also to the broader scientific community involved in the study of the strong interaction.Among the participants and speakers there were prominent scientists from the broader scientific community; as well as within the participants.All infos infos related to the workshop, which was a key activity within DISCO, can be found on the dedicated web-page:<https://agenda.infn.it/event/38467/overview>and the list of invited speakers:<https://agenda.infn.it/event/38467/page/8403-invited-speakers>where, for example, distinguished speaker for NuPECC presented the NuPECC and Long Range Plan 2024 for European nuclear physics.Worth mentioning that in 2024 Dr. Carlo Guaraldo, key-figure in hadron physics in Europe, and in STRONG-2020, passed away. The workshop was dedicated to him and a dedicated talk remembered his personality and his achievements. |
| ***Task 3: Realization of activities with impact on general public, such as (but not limited to): dedicated STRONG-2020 web-page for public, seminars and conferences in schools and universities; hands-on experiments in the framework of stages for students; dedicated video-channel for presentation of the STRONG-2020 activities, etc.*** |
| The realization of activities with impact on general public continued to be a main DISCO effort during the reporting period, being us aware about the importance of this type of activities. In this context, an important tool was the STRONG-2020 web-page, which is accessible to the general public and contains also dedicated information on activities which are organized and have an impact (also) on the general public, such as the section of the Life Events – under Events and the Newsletters under News and Documents – which are also of interest for educated public interested in science and, in particular in the STRONG-2020 outcomes.A very important tool within Task 3, during the reporting period, were the dedicated STRONG-2020 public lectures, initiated originally during the pandemic lockdown. This instrument proved to be very efficient, so was continued also in the reporting period. Specifically, the DB organized and held a series of 8 public lectures online and one virtual visit on the dedicated youtube channel to the public lectures on STRONG-2020 related activities:<https://www.youtube.com/playlist?list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s>Speakers were identified within the DB meetings, then they were invited to give the talks. Consequently the platform was organized (streamyard, featuring the lecture on yotube), posters prepared and publicized within the STRONG-2020 community, within the broader community and mostly within schools and towards the general public; speakers instructed in its use with a rehearsal session, and then the online lecture was held, being introduced by Catalina Curceanu (or a member of DB) who also introduced the STRONG-2020 project to the general public; at the end of the lectures, an interactive session with participants, where they could ask questions answered by experts, was organized. The videos were then registered, edited and posted also on the dedicated channels.The 8 public lectures and the virtual visit, as well as their related videos were realized with support from LNF-INFN Educational service, and they can be found on:1. How progress is made in fundamental science – cutting edge instrumentation

<https://www.youtube.com/watch?v=J8TJRosPasg&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=9&t=3044s&pp=iAQB>having nearly 1000 views;1. Virtual MAMI tour

<http://www.strong-2020.eu/events/live-events.html>1. I Buchi Neri, la Quantistica e…i segreti di Babbo Natale – special winter 2022 holidays

<https://www.youtube.com/watch?v=rB0FIrl0KSI&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=8>with more than 3800 views1. The heart of matter : the secret inner life of protons

<https://www.youtube.com/watch?v=OANoxeGOGus&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=7ttps://www.youtube.com/watch?v=ie3Gj0WvRlk&t=292s>with more than 600 views1. Machine learning the history of the Universe

<https://www.youtube.com/watch?v=6BnwlxO1KKo&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=6>with more than 1000 views1. Navigating uncharted territories with strangeness with SIDDHARTA-2 at DSFNE

<https://www.youtube.com/watch?v=b7OuJHnwaKs&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=5>with more than 800 views1. Science, policy and Truth (special lecture)

<https://www.youtube.com/watch?v=ikBtifkNV1Y&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=4&t=1s>with more than 600 views 1. May the Strong Force be with you – DB special public lecture <https://www.youtube.com/watch?v=Oc6F4ysHS1w&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=1>

with more than 1000 views.1. Computing the heart of matter

<https://www.youtube.com/watch?v=zIoU4UXZxiM&list=PLRuUrPCVPFIqjT_o4A7iPEPj26N_OOA6s&index=2&t=3357s>with nore than 700 viewsThe overall number of visualizations is more than 10000 for the lectures and visit, showing the interest of the general public in issues related to STRONG-2020 project activities.The lectures are also posted on the STRONG-2020 web-page, under:<http://www.strong-2020.eu/events/live-events.html>where also the posters of the event are posted.Transversal to all dissemination activities (including Task 1 and Task 2) is the section on the STRONG-2020 web page under Events – i.e. Pictures gallery – where a gallery picture of STRONG-2020 participants was updated for various events.http://www.strong-2020.eu/events/pictures-gallery.htmlA dedicated public event was organized and held in occasion of the final STRONG-2020 workshop, Present and Future Perspectives in Hadron Physics, the public conference:Dai quark alle stelleIl fascino della fisica adronica, held on 19th June 2024 at Scuderie Aldobrandini in Frascati; more than 100 participants (schools, students and general ublic) took actively part.The infos can be found on the main page of the workshop (where also the Poster for public event is placed):https://agenda.infn.it/event/38467/overviewAnother important type of activities was that dedicated to schools.Among these activities, the most important ones were organized within the INSPYRE International Schools, 2023 and 2024 Editions, organized online by LNF-INFN, with support from STRONG-2020:<https://edu.lnf.infn.it/inspyre-2023/>and<https://comedu.lnf.infn.it/inspyre-2024/>all infos can be found on this dedicated web pages. Moreover, reports on the INSPYRE school as well as other dissemination events can be found in Newsletters, accessible to general public.Other events for public and schools were the following ones:7 affascinanti rompicapi della Fisica Moderna: dai buchi neri al gatto di SchrödingerTalk given by C. Curceanu to 200 students from Italy on 14th June 2024 at LNF-INFNLa magia degli acceleratori di particelle: dalla caccia alla materia oscuRa alla terapia dei tumoritalk given by C. Curceanu on 5-6 april 2024 at Serra San Bruno for schools (120 participants)L’affascinante vita di una stellaTalk given by C. Curceanu on 23 March 2024 for students at Istituto Comprensivo di Falerna - Nocera Terinese (100 participants)I misteri dell’UniversoTalk given by C. Curceanu on 22 March 2024 for general public at Aula Magna di Nocera Terinese (250 participants)Evoluzione quantisticaDal Big Bang ai Buchi Neri Quo Vadis Universo?Talk given by C Curceanu on 16 March 2024 at Udine library for general public (50 participants)Evoluzione quantisticaDal Big Bang ai Buchi Neri Quo Vadis Universo?Talk given by C Curceanu on 16 March 2024 at Auditorium Istituto "Odorico Mattiussi" – Pordenone (300 participants) A tu per tu con i fisici nucleariPublic event at Sala Degli Specchi, Frascati, 28 Nov 2023 (50 participants)Atomi Kaonici a DAΦNE:L’esperimento SIDDHARTA-2By Catalina Curceanu, 30 sept. 2023 – Researchers Night event – Testaccio Roma The greatest puzzles of Modern Physics: from the Dark Matter to the Black  HolesBy Catalina Curceanu at Tradate High School , 6 feb 2023 (250 participants)L’incredibile mondo della fisica quantisticaBy C. Curceanu on 19 April 2023 at Ladispoli high school (120 participants)In addition and similar to the talks above C. Curceanu gave other about 10 lectures in high-schools in the reporting period for more than 1000 students. |
| ***Task 4: Realization of activities with impact on potential partners in industry, such as (but not limited to): technical reports containing innovation in technology resulting from STRONG-2020 for the potential industrial partners; meetings, symposia, visits and discussions both in the institutes and research infrastructures participating in STRONG-2020 and in the potentially interested industry partners*** |
| Related to this Task, Dr. Catalina Curceanu gave various talks (see Task 3), where representatives of industries and SME were also present.Various WPs within STRONG-2020 – especially those developing detector systems, were in contact with potential industrial partners (see reports WPs) for possible use of their technologies in other sectors. For example, within ASTRA project the CdZnTe detectors are being discussed for possible applications in industry – quality check and agrifood.Also, during the project various meetings and discussions were organized with FBK (Italy) for collaboration in radiation detectors development.During the final Workshop on the topic “Present and future perspectives in Hadron Physics”, which was held in June 2024 at INFN-LNF, at the public event “Il fascino della fisica adronica, held on 19th June 2024 at Scuderie Aldobrandini in Frascati” there were various representatives of some SME with whom possible future collaborations were discussed. |
| ***Task 5: Realization of activities with impact on policy makers, such as (but not limited to): realization of documents summarizing STRONG-2020 findings and perspectives, to be distributed at national, European and international levels; visits of policy makers to the STRONG-2020 research infrastructures; communication with the European Commission*** |
| Activity of communication with the European Commission was task of the PI of STRONG-2020, Dr. Barbara Erazmus, who was in permanent contact with the commission.Part of the activities within Task 5 were organized during the annual meetings held in the reporting period. These include: the 2023 annual meeting, held at CERN in November 2023:<https://indico.cern.ch/event/1264833/>where a talk:European Research Executive Agency as a funding body in HE and for Research Infrastructures¶by Sari Vartiainen-Mathieu (Head of Unit Reforming European R&I and Research Infrastructures) was given, which was followed by active discussions.Other activities took place during the final workshop “Present and future perspectives in Hadron Physics”, held in Frascati in June 2024.Finally, more activities in this context were organized and took place in the final Annual meeting (20-22 june 2024) at LNF-INFN:<https://indico.in2p3.fr/event/32198/>where final discussions took place. |

**1.3 Highlights of significant results**

*[Include an overview of the project results towards the objectives in line with the structure of the Annex 1 to the Grant Agreement*.*]*

The activities within DISCO were organized by the STRONG-2020 Dissemination Board (DB); the DB had a total of 22 online meetings lead by DISCO WP leader (Curceanu); during these meetings the dissemination and communication activities were organized, including: the update of the STRONG-2020 web-page with latest activities; the organization and preparation of the Newsletters; the organization and preparation of the STRONG-2020 public lectures; the organization of the final workshop etc.

During the reporting period the following important significant activities together with their results towards the objectives were achieved:

1. Continuous update and implementation of the dedicated STRONG-2020 web-page materials pertinent to the description of the project and useful information related to the activities with impact on the scientific community of specialists in strong interaction physics, on wider scientific community and general public; the dedicated web-page can be found as:

<http://www.strong-2020.eu/>

1. Preparation and release of a STRONG-2020 Newsletter, in May 2023, containing scientific information, dissemination information, interviews and news coming from STRONG-2020 WPs .

These newsletter was published on the dedicated STRONG-2020 web-site under News and Documents:

http://www.strong-2020.eu/news-documents/newsletter.html

This Newsletter contained as main articles:

- Report on the 2022 edition of the STRONG-2020 Annual Meeting: a new stage of return to normal operation and impressive results

- A featuring article: LHCb goes to fixed target

- A second featuring article: Kaonic atoms at the DAΦNE collider with the SIDDHARTA-2 experiment

- News and updates on various WPs

- Public dissemination infos

- An Interview to Dr. Mostafa Hoballah, Researcher of STRONG-2020 WP23 (JRA5)

We have widely publicized the Newsletter within the community of specialists in strong interaction physics and to the wider scientific community.

1. The organization of the final Workshop of STRONG-2020: Present and Future Perspectives in Hadron Physics, for which the DB was playing a fundamental role, being active in the Organizing Committee.

The Workshop was organized in the period 17-19 June 2024 and held at INFN-LNF at Frascati.

All information related to the workshop can be found at the dedicated web-site:

https://agenda.infn.it/event/38467/overview

84 participants were registered to the workshop:

https://agenda.infn.it/event/38467/registrations/participants

both from STRONG-2020 as well as from the enlarged scientific community.

The timetable can be found at:

https://agenda.infn.it/event/38467/timetable/#20240617

while the list of contributions:

https://agenda.infn.it/event/38467/contributions/

Two competitions were organized and held in correspondence with the workshop:

Best Young Talks researchers’ award, for which info can be found at:

https://agenda.infn.it/event/38467/page/9103-best-young-researchers-talk-award

as well as a photo competition, with information at:

https://agenda.infn.it/event/38467/page/9104-strong-2020-best-picture-award

The DISCO team was extremely active during the reporting period in organizing, working constantly for more than one year, setting up the venue, publicizing the event, selecting the contribution talks, chairing sessions, organizing the social events and awards, as well as publicizing the outcome of the workshop, etc.

1. Organization of dedicated STRONG-2020 public lectures: the DB proposed and discussed the lectures within the series of STRONG-2020 public lectures, which is using a dedicated platform; this was especially useful during the pandemic emergency. The lectures addressed to the general public, specially targeting the schools

http://www.strong-2020.eu/news-documents/live-events.html

In the reporting 8 lectures plus a virtual tour were successfully organized and held live online, being a big success:

* How progress is made in fundamental science – cutting edge instrumentation

https://www.youtube.com/watch?v=J8TJRosPasg&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=9&t=3044s&pp=iAQB

having nearly 1000 views;

* Virtual MAMI tour

http://www.strong-2020.eu/events/live-events.html

* I Buchi Neri, la Quantistica e…i segreti di Babbo Natale – special winter 2022 holidays

https://www.youtube.com/watch?v=rB0FIrl0KSI&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=8

with more than 3800 views

* The heart of matter : the secret inner life of protons

https://www.youtube.com/watch?v=OANoxeGOGus&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=7ttps://www.youtube.com/watch?v=ie3Gj0WvRlk&t=292s

with more than 600 views

* Machine learning the history of the Universe

https://www.youtube.com/watch?v=6BnwlxO1KKo&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=6

with more than 1000 views

* Navigating uncharted territories with strangeness with SIDDHARTA-2 at DSFNE

https://www.youtube.com/watch?v=b7OuJHnwaKs&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=5

with more than 800 views

* Science, policy and Truth (special lecture)

https://www.youtube.com/watch?v=ikBtifkNV1Y&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=4&t=1s

with more than 600 views

* May the Strong Force be with you – DB special public lecture https://www.youtube.com/watch?v=Oc6F4ysHS1w&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=1

with more than 1000 views.

* Computing the heart of matter

https://www.youtube.com/watch?v=zIoU4UXZxiM&list=PLRuUrPCVPFIqjT\_o4A7iPEPj26N\_OOA6s&index=2&t=3357s

with nore than 700 views

The overall number of visualizations is more than 10000 for the lectures and visit, showing the interest of the general public in issues related to STRONG-2020 project activities.

The lectures are also posted on the STRONG-2020 web-page, under:

http://www.strong-2020.eu/events/live-events.html

where also the posters of the event are posted.

1. Organization of the INSPYRE International Schools, 2023 and 2024 Editions, organized online by LNF-INFN, with support from STRONG-2020:

https://edu.lnf.infn.it/inspyre-2023/

and

https://comedu.lnf.infn.it/inspyre-2024/

all infos can be found on this dedicated web pages.

Moreover, reports on the INSPYRE school as well as other dissemination events can be found in Newsletters, accessible to general public.

1. Events for schools and general public:

7 affascinanti rompicapi della Fisica Moderna: dai buchi neri al gatto di Schrödinger

Talk given by C. Curceanu to 200 students from Italy on 14th June 2024 at LNF-INFN

La magia degli acceleratori di particelle:

dalla caccia alla materia oscuRa alla terapia dei tumori

talk given by C. Curceanu on 5-6 april 2024 at Serra San Bruno for schools (120 participants)

L’affascinante vita di una stella

Talk given by C. Curceanu on 23 March 2024 for students at Istituto Comprensivo di Falerna - Nocera Terinese (100 participants)

I misteri dell’Universo

Talk given by C. Curceanu on 22 March 2024 for general public at Aula Magna di Nocera Terinese (250 participants)

Evoluzione quantistica

Dal Big Bang ai Buchi Neri Quo Vadis Universo?

Talk given by C Curceanu on 16 March 2024 at Udine library for general public (50 participants)

Evoluzione quantistica

Dal Big Bang ai Buchi Neri Quo Vadis Universo?

Talk given by C Curceanu on 16 March 2024 at Auditorium Istituto "Odorico Mattiussi" – Pordenone (300 participants)

A tu per tu con i fisici nucleari

Public event at Sala Degli Specchi, Frascati, 28 Nov 2023 (50 participants)

Atomi Kaonici a DAΦNE:

L’esperimento SIDDHARTA-2

By Catalina Curceanu, 30 sept. 2023 – Researchers Night event – Testaccio Roma

The greatest puzzles of Modern Physics:

from the Dark Matter to the Black Holes

By Catalina Curceanu at Tradate High School , 6 feb 2023 (250 participants)

L’incredibile mondo della fisica quantistica

By C. Curceanu on 19 April 2023 at Ladispoli high school (120 participants)

In addition and similar to the talks above C. Curceanu gave other about 10 lectures in high-schools in the reporting period for more than 1000 students.

1. During the final Workshop on the topic “Present and future perspectives in Hadron Physics”, which was held in June 2024 at INFN-LNF, at the public event “Il fascino della fisica adronica, held on 19th June 2024 at Scuderie Aldobrandini in Frascati” there were various representatives of some SME with whom possible future collaborations were discussed.
2. Critical Implementation risks and mitigation actions

**2.1 Risk materialization**

*[Provide the information on the project risks described in Annex 1 to the Grant Agreement*.*]*

1. Organization of the Workshop on the topic “Present and future perspectives in Hadron Physics in the 21st Century”, which is proposed to be held in the third year of the project, depends on the availability of the hosting structure and hosting organization (low)

Whether the risk has materialized? (Yes/No)

Yes, the risk has materialized and was related to the COVID emergency; the risk was mitigated by rescheduling the workshop in the last year of the project.

**2.2 Risk-mitigation measures applied**

*[Please indicate whether the risk-mitigation plan described in Annex 1 to the Grant Agreement and corresponding to the risk number was applied in the reporting period*.*]*

1. Organization of the workshop will be realized in the beginning of the fourth year of the project: Consequently the Proceedings will be realized in the second half of the fourth year.

Whether the risk-mitigation plan was applied? (Yes/No)

Yes, the plan was applied. The Workshop “Present and future perspectives in Hadron Physics” was successfully organized in the period 17-19 June 2024 and held at INFN-LNF at Frascati.

All information related to the workshop can be found at the dedicated web-site:

https://agenda.infn.it/event/38467/overview

**2.3 Comments/new risk-mitigation measures proposed**

*[Provide any significant comments on the risks encountered and the mitigation plan applied. Give any unforeseen risks encountered during the reporting period and not mentioned above*.*]*

The unforeseen risk was related to the Covid pandemic emergency as well as to the international crisis (Russian aggression of Ukraine); for this reason the workshop initially planned for the third year of the project was rescheduled for the last year instead. The mitigation plan was applied timely and workshop regularly realized in presence in June 2024. Proceedings regularly published in coincidence to workshop.

3. Deviations from Annex 1 (Description of Action) and Annex 2 (Estimated budget for Action) (if applicable)

**3.1 Deviations from planned objectives and tasks, and their impact on the progress of the work package**

*[Explain the reasons for deviations, the consequences and the proposed corrective actions.]*

The Workshop on the topic “Present and future perspectives in Hadron Physics”, which was proposed to be held in the third year of the project, needed to be rescheduled for June 2024 – due to pandemic emergency and international crisis. Consequently, also the related proceedings were shifted by a similar amount of time.

In the end the workshop and proceedings were regularly realized.

**3.2 Deviations between actual and planned person months**

*[Explain deviations between actual and planned person-months. If applicable, propose corrective actions.]*

1. Deliverables and milestones tables

**4.1 Deliverables**

*[Please list all the deliverables due in this reporting period, as indicated in Annex I.*

*Deliverables must also be accompanied by a short report (deliverable description and technical documentation, such as photo, list of publications, etc.), so that the European Commission has a record of their existence).]*

***Table 4.1 List of deliverables***

| **Deliverable No.** | **Deliverable name** | **Lead Beneficiary** | **Nature** | **Dissemination level[[1]](#footnote-1)** | **Delivery month from Annex I** | **Delivered****(yes/no)** | **Actual delivery month** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| D2.4 | Proceedings of theWorkshop | 30 - INFN | Report | CO | 61 | yes | 61 | Proceedings contain the contribution talks at the workshop |
| D2.5 | Article in NuclearPhysics NewsInternational (NUPECC)and in CERN Courier onthe results of the project | 30 - INFN | Report. | PU | 61 | yes | 61 | The article containing the results of the project was written (month 61) and is being is submitted in NuPECC – according to deadlines for submission (September 2024). |

*In case a deliverable has been delivered in the reporting period and a report exists in the Participant Portal, you can indicate “uploaded report” in correspondence of a deliverable*

**4.2 Milestones**

*[Please complete the table if milestones are specified in Annex I. Milestones will be assessed against specific criteria and performance indicators as defined in Annex I.]*

***Table 4.2 List of milestones***

| **Milestone number** | **Milestone name** | **Lead beneficiary** | **Delivery month from Annex I** | **Delivered****(yes/no)** | **Actual delivery month** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| MS9 | Preparation of the Workshop“Present and futureperspectives in HadronPhysics in the 21st Century” | 30 - INFN | 47 | yes | 47 | The workshop Present and futureperspectives in HadronPhysics organization was prepared month 47. This was followed by workshop organization. Workshop was held in June 2024. |

**4.3 Deliverable Reports**

*[Please provide, per each deliverable listed in Table 4.1, a brief description, including if possible some technical documentation (photos, list of publications, etc.). Use as many pages as needed per each report.]*

D2.4 Proceedings of the Workshop: contain the contributions for young participants. The file of the proceedings can be found on the web page:

<https://agenda.infn.it/event/38467/contributions/contributions.pdf>:

D2.5 The article STRONG-2020: Advancing Our Understanding of the Strong Interaction and Shaping the Future of European Hadron Physics was written and is being submitted to NuPECC News.

Another article (French) was published on the Letter IN2P3.:

<https://www.in2p3.cnrs.fr/fr/cnrsinfo/la-physique-hadronique-europeenne-se-projette-dans-le-futur>

1. PU = Public

PP = Restricted to other programme participants (including the Commission Services).

RE = Restricted to a group specified by the consortium (including the Commission Services).

CO = Confidential, only for members of the consortium (including the Commission Services). [↑](#footnote-ref-1)