

Annual Report 2023

Participants at the CHIPP.....

2 February 2024/AB

This report is to be delivered to SCNAT and is thus structured along the SCNAT guidelines.

SUMMARY: Navigating the Frontiers of Particle Physics

Highlights of the Year

As the curtains close on 2023, the Annual Report unfolds a narrative of collaboration, innovation, and groundbreaking achievements in Swiss particle physics.

In a year marked by dynamic events, the [CHIPP/CHART Workshop on Sustainability](#) and CHIPP 2023 Plenary took center stage. Aligned with the International Year of Basic Sciences for Sustainable Development, this cornerstone event delved into the intersection of sustainability and particle physics. Insights from Mike Seidel's [talk](#) on energy efficiency in accelerators research added depth to discussions, positioning the workshop as a beacon for sustainable practices. Véronique Boisvert's [talk](#) on "The Climate Emergency: Can Particle Physics Ever Be Sustainable?" at the workshop was highlighted as very insightful.

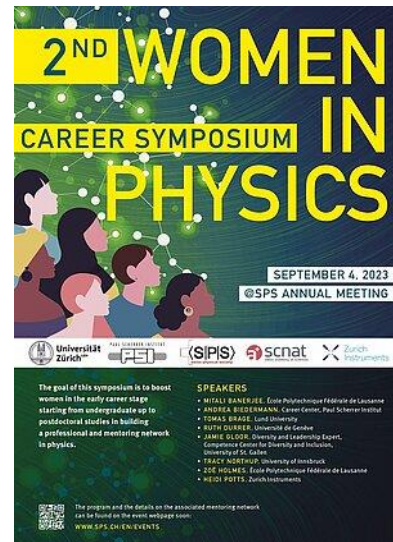
The unveiling of the [CHEF](#) (CH Experimental research at the FCC) document marked a pivotal moment, summarizing 20 projects for the Future Circular Collider (FCC). This document not only provided a comprehensive overview but also showcased the community's broad interest and commitment to FCC-related initiatives.

The [Joint Annual Meeting](#) of SPS/CHIPP and ÖPG in Basel, from 4 - 8 September 2023, marked a significant convergence of minds. Commencing with a symposium acknowledging the 400th Birthday of Blaise Pascal, the conference unfolded with renowned speakers in plenary sessions, allowing



in-depth discussions in various topical fields. A poster exhibition complemented the scientific program, showcasing the latest advancements in physics across a wide range of fields.

Additionally, the commitment to fostering diversity and empowering women in physics manifested in the sustainability of the [Women-in-Physics Career Symposium](#) series. Following the success of last year's inaugural event, this symposium evolved into a sustainable series. Sponsored by the University of Zurich, the Paul Scherrer Institute, the Swiss Physical Society, the Swiss Academy of Natural Sciences (SCNAT), and Zurich Instruments, the symposium aimed to boost the careers of women physicists, providing a platform for professional and mentoring networks. Career talks, a podium discussion, and ample networking opportunities facilitated an exchange of experiences, advice, and ideas among participants from various career levels.



The [CHIPP Winter School 2023](#), held in the picturesque setting of Leukerbad from 15-20 January 2023, was organized by Annapaola de Cosa and Lesya Shchutka. The week of lectures and ski played a crucial role as a platform for knowledge exchange and skill development, nurturing the next generation of physicists.

In recognizing excellence, the [CHIPP Prize 2023](#) was awarded to Anne-Mazarine Lyon for her pioneering work in exploring supersymmetric particles and heavy neutrinos. Lyon's contributions within the CMS

collaboration significantly advanced searches for supersymmetry, leaving an indelible mark on the field.

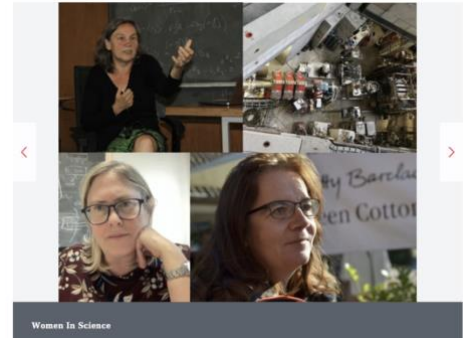
Lesya Shchutka, an EPFL professor, emerged as the Prize winner of the [Swiss Science Prize Latsis 2023](#). Her dedication to paving the way for the discovery of new particles earned her recognition within academic circles and reflected the community's commitment to advancing our understanding of particle physics.

Amidst these accomplishments, the CHIPP roadmap initiatives in 2023 stand as pillars of strategic planning. Building upon the extensive 2020 roadmap, the community was asked to update the CHIPP roadmap, a succinct update, outlining key projects and timelines for the 2025-2028 FLARE funding scheme period and forward-thinking planning for 2029-2032.

The CHIPP EB kept the FLARE Tables updated with the funding of experiments of the Swiss National Science Foundation (SNSF); the Board continued to exchange information and feedback with the funding agencies.



Throughout the year, the particle physics community engaged in various campaigns, including [Women's Day](#) and ongoing efforts by the [Environment Working Group](#) within the European Particle Physics Communication Network (EPPCN). These initiatives underscore the commitment to inclusivity and environmental awareness within the community. In celebration of [#DarkMatterDay2023](#), physicists from CHIPP, including Martina Mongillo, Benjamin Banto Oberhauser (NA64) from ETH Zurich, and Andrei Tykhonov (DAMPE) Professor from Geneva, engaged in a live conversation on Twitter/X Spaces. This event allowed participants to delve into the mysteries of dark matter, posing questions and exploring the enigmatic realm of the invisible cosmic substance.



The CHIPP outreach activities continued supporting the thematic portal hosted on the SCNAT website, the multi-lingual "[particlephysics.ch](#)". Thanks to the SCNAT support, we could continue to keep this a lively page with 8 articles by Barbara Warmbein, a professional journalist, and several other news articles and press releases in 2023.

X/Twitter presence: Geneva: @DPNC_Unige, Bern @bernlhep, Zurich @UZHPhysics, PSI @psich_en, ETH @ETH_en, EPFL @EPFL_en, CHIPP @CHIPP_news.

SECTORS OF COMPETENCE: NETWORKING AND DEVELOPMENT OF SCIENCE

Meetings, Workshops and Schools

In 2023 CHIPP continued to work on its networking and educational goals and organized directly or through its members several meetings, schools and workshops.

- 11-13 January 2023: [Zurich Phenomenology Workshop](#) (ZPW2023): Recent Highlights across Phenomenology (Thomas Gehrmann, Massimiliano Grazzini, Stefano Pozzorini, Gino Isidori)
- 15-20 January 2023, [CHIPP Winter School 2023](#), (Annapaola DeCosa ETHZ and Lesya Shchutka EPFL) .
- 23-25 January 2023, [Open CHRISP](#) Users Meeting & Review of the PSI experiments, organised by PSI
- 5-9 June 2023: [Elliptics Summer School](#) (Thomas Gehrmann)
- 26 June - 2 July 2023, Thea Aarrestad taught at the multidisciplinary and international [Machine Learning Summer School](#) on Applications in Science in Krakow (Poland)
- 2-7 July 2023, Paolo Crivelli, Aldo Antognini, Anna Soter, Daniel Kienzler organized a conference at the [CSF in Ascona](#) last July on "Searching for New Physics at the Quantum Technology Frontier"
- 3-13 September 2023, Thea Aarrestad taught Machine Learning to PhD students at the well-known [Maria Laach Herbstschule](#) für Hochenergiephysik
- 4-8 September 2023, [Sixth Plenary Workshop of the Muon g-2 Theory Initiative](#), Bern (Peter Stoffer, Jan-Niklas Toelstede)
- 14 September 2023, [Data Science Day](#) "Data Science for All : How to teach and integrate Data Science in diverse Disciplines "
- 26 October 2023, [Strategic Partnership Symposium](#) between University of Tokyo, UZH and ETHZ
- 29 October-3 November 2023, Tobias Golling (U. Geneva) Organization of [Hammers & Nails](#) in Monte Verita, Ascona, Switzerland
- Thea Aarrestad co-organized a panel discussion at the 3rd Symposium on Artificial Intelligence for Industry, Science, and Society ([AI2S2](#)) on AI in the Physical Science
- Thea Aarrestad would like to highlight a collaboration with the Institute of Neuroinformatics at UZH/ETH, the Department of Computer Science and Engineering at the University of California, San Diego, and the Robotic and Tech of Computers Group at the University of Seville (USE) on real-time DVS

camera denoising using Machine Learning. This research was presented at the 2023 [IEEE/CVF Conference](#) on Computer Vision and Pattern Recognition Workshops (CVPRW).

INTERNATIONAL ACTIVITIES

Scientific cooperation

Research in particle and astroparticle physics usually involves large infrastructures, which are the result of regional, national and worldwide collaborations. To cover the important intellectual and technological challenges, the amounts of human and financial resources required can no longer be provided by a single country. The table below shows a snapshot of the current international experimental collaborations involving CHIPP Board members.

Furthermore, smaller cooperation projects exist; many of them occur spontaneously – between groups working in the same field or requiring the same type of infrastructure – or in a coordinated way by CHIPP. Here below are some of the activities coordinated by CHIPP members:

Michael Spira (PSI) is the convener of 3 Subgroups (BR, bbH, MSSM) of the LHC Higgs working group.

A team from PSI: Stefan Ritt (MEG II, Mu3e), Bernhard Lauss (n2EDM), Aldo Antognini (CREMA), Andreas Knecht (muX) manage the regular (between monthly and annually) collaboration meetings of the respective projects at PSI.

S. Schramm (University of Geneva) created an ATLAS open dataset for outreach and teaching purposes, which was made public in June 2021 see the CERN open data [webpage](#).

Prof. Olivier Schneider is member of the [Particle Data Group](#), and he is an active member of a sub-group of the Heavy Flavour Averaging Group ([HFLAV](#)). HFLAV is responsible for calculating world averages of measurements of beauty-hadron, charm-hadron and tau-lepton properties from current and past experiments and provides a comprehensive resource for the field in terms of web pages and full documentation of results.

One particular example of scientific collaboration and help at the service of the new arrivals in the LHCb experiment has been provided by the EPFL team that has built the [LHCb starterkit project](#) where the lessons from the dedicated Workshops and online tutorials are stored. EPFL researchers organized the LHCb Starterkit lessons.

Project	Swiss institutes	CHIPP Board Members	Institutes worldwide
High-Energy particle physics			
ATLAS	Bern, Geneva	Beck, Braccini, Golling, Iacobucci, Nessi, Schramm, Sfyrla, Weber, Wu	263
CMS	ETHZ, PSI, Zurich	Botta, Caminada, Canelli, DeCosa, Dissertori, Erdmann, Kilminster, Wallny	249
LHCb	EPFL, Zurich	Blanc, Marchevski, Schneider, Serra, Shchutska, Steinkamp	99
LHC Tier-2	ETHZ, CSCS	Donegà	> 200
HL-LHC	EPFL, PSI	Seidel	55
CLIC	ETHZ, PSI	Seidel	70
FCC	Basel, Bern, EPFL, ETHZ, Geneva, PSI	Blondel, Dissertori, Laine, Seidel	148
NA64	ETHZ	Crivelli	13
FASER	Bern, Geneva	Iacobucci, Sfyrla, Scampoli	17

SND@LHC	EPFL	Schneider, Shchutska	33
NA62	EPFL	Marchevski	33
Astroparticle physics			
AMS	Geneva	Wu	63
ArDM	ETHZ	Rubbia	7
CTA	ETHZ, Geneva, Zurich	Biland, Montaruli	210
DAMIC	Zurich	Kilminster	10
DAMPE	Geneva	Tykhonov	?
DARWIN	Bern, Zurich	Baudis	24
IceCube	Geneva	Montaruli	50
MAGIC+FACT	ETHZ	Biland	24-4
XENON	Bern, Zurich	Baudis	27
Neutrino physics			
GERDA	Zurich	Baudis	18
NA61 / T2K / HyperK	Bern, ETHZ, Geneva	Sanchez, Rubbia	33-63-75
DUNE	Bern	Kreslo, Weber	175
SHiP	EPFL, Geneva, Zurich	Kilminster, Shchutska, Serra	53
High-precision and muon physics			
CREMA/HyperMu	ETHZ, PSI	Antognini, Kirch, Soter	9
muCool	ETHZ, PSI	Antognini, Hildebrandt, Kirch, Papa, Piegsa	4
GBAR	ETHZ	Crivelli	18
MEG II	PSI	Hildebrandt, Ritt	15
Mu3e	ETHZ, Geneva, PSI, Zurich	Dissertori, Hildebrandt, Ritt, Serra, Wallny	8
MuMass	ETH, PSI	Crivelli, Antognini, Kirch, Soter,	3
nEDM/n2EDM	ETHZ, PSI, Bern	Kirch, Lauss, Piegsa	15
LEMING	ETHZ, PSI	Antognini, Kirch, Soter, Crivelli	3
PIONEER	ETHZ, PSI	Soter, Caminada	24
Other			
Medical	Bern	Braccini, Scampoli	
Novel Detectors	Bern	Kreslo,	
Ion-Beam Physics	ETHZ	Synal	

In parallel to these experimental collaborations and projects, Swiss theorists are involved in numerous international collaborations. The prominent ones, in which Swiss theory institutes are key players, is

- The [LHC Higgs cross-section working group \(LHCHXSWG\)](#) created in 2010 to produce agreements on cross sections, branching ratios and pseudo-observables relevant to the Higgs boson: M. Spira (PSI) was involved in the LHC Higgs cross-section working group responsible for the [HDecay Manual](#).

At the University of Bern, the work on the [review of lattice results](#) continues. It is related to pion, kaon, D- and B-meson physics with the aim of making them easily accessible to the particle physics community.

Tobias Golling (U. Geneva) co-uninitiated [EuCAIF](#): European initiative for advancing the use of AI in Fundamental Physics since 2023.

Institutional collaboration (in alphabetical order):

Several CHIPP Board members are acting as official delegates to international organizations in 2023 or/and serve special roles for the CHIPP community:

- **Thea Klæboe Årrestad** is co-coordinator of the [Fast Machine Learning Lab](#), an international research collective focusing on fast Machine Learning inference for science and technology is Klæboe Årrestad Targeted Systems Coordinator in the Accelerated AI Algorithms for Data-Driven Discovery ([A3D3](#)) Institute Kind: multi-disciplinary and geographically distributed entity with the primary mission to lead a paradigm shift in the application of real-time artificial intelligence (AI) at scale to advance scientific knowledge and accelerate discovery.
- **Hans Peter Beck** (U. Bern) represents Switzerland in the European Physical Society Council. He is the Swiss representative in IUPAP as of 1 January 2019.
- **Laura Baudis** (UZH) is member of the [Dark Matter](#) advisory committee. She is the APPEC Scientific Advisory Committee chair. She is a member of the Academy of Sciences and Literature, Mainz, and also member of the Research Committee for Particle Physics at the [PSI HIPA](#).
- **Bernhard Lauss** (PSI) serve since several years as a member of the "Neutron Science Proposal Review Committee (NSPRC) at the Materials and Life Science Experimental Facility (MLF) of the Japan Proton Accelerator Research Complex (J PARC) and as a Cross-Tokai Expert Panel member of the Proposal Evaluation Committee".
- **Frédéric Blanc** (EPFL) is one of the Swiss representatives in PECFA.
- **Florenzia Canelli** (UZH) has been a member of commission C11 of the International Union of Pure and Applied Physics ([IUPAP](#)) on particles and fields since Nov. 2014. She was elected secretary of the IUPAP C11 Commission on 1 January 2018 for 4 years. She is a member of the Physics Advisory Committee of Fermilab, member of [LHCP](#) international advisory committee and member of the Dark Matter workshop advisory committee. She is CMS physics coordinator. Since January 2023 she is the Swiss scientific delegate to the CERN Council on mandate of the State Secretariat for Education, Research and Innovation (SERI).
- **Gilberto Colangelo** (U. Bern) is a member of the Research Committee for Particle Physics at the [PSI HIPA](#). He is the Swiss representative for the ECT*.
- **Paolo Crivelli** (ETHZ) is coordinator of the NuPECC working Group "Symmetries and Fundamental Interactions".
- **Mauro Donegá** (ETHZ) is member of the [Steering Committee](#) of the LHC Higgs Working group.
- **Günther Dissertori** (ETHZ) is the ETHZ Rector.
- **Klaus Kirch** (ETHZ and PSI), Vice-Chair of the Scientific Council of the Excellence Cluster PRISMA+ in Mainz/Germany, is a member of the Scientific Advisory Board of the Stefan-Meyer-Institute in Vienna/Austria, and a member of the Scientific Advisory Board of the Max-Planck-Institut für Kernphysik in Heidelberg/Germany. Kirch is the Swiss [NuPECC delegate](#).
- **Teresa Montaruli** (U. Geneva) is the vice-President and since Sept. 2023 President of the Swiss Physical Society, Coordinator of the CTAO-CH collaboration of Swiss Institutes working in the CTAO Observatory in the SERI research infrastructure roadmap and scientific delegate in the CTAO Council for Switzerland. She has been the chair of the APPEC General Assembly in 2021-22 and was a member of the LNGS [Scientific Advisory Committee](#).
- **Katharina Müller** (UZH) has been the Swiss representative in the [IPPOG](#) Collaboration since September 2017. She is in charge of Outreach and Education in CHIPP, and she is also member of the LHCTop Working group.
- **Tatsuya Nakada** (EPFL, Prof. Emeritus) is chair of the Executive Board of the [ILC International Development Team](#) since August 2020.
- **Stefan Ritt** (PSI) is chair of the Educational Committee of the Nuclear and Plasma Sciences Society [NPSS of IEEE](#).

- **Olivier Schneider** (EPFL) is a member of the [Particle Data Group](#); he has been the chair of the LHCb collaboration board since December 2020 (second 2-year mandate).
- **Lesya Shchutka** (EPFL) is a member of the [LHCP International Advisory Committee](#) since 2021 and till 2025, she is a LHCP 2023 BSM2 (FIPs) program committee member and session convener.
- **Rainer Wallny** (ETHZ) is a member of the LBNC committee of the Fermi National Accelerator Laboratory, and member of the EPS HEPP board. Wallny is the RECFA representative for Switzerland in 2023.
- **Marcelle Soares Dos Santos** (UZH) is a member of the High-Energy Physics Advisory Panel (HEPAP) since September 2023, the panel advised the US funding agencies DOE and NSF on its funding for HEP science, she was also a member of the physics Program Advisory Committee of the Fermi National Accelerator Laboratory until December 2023 and elected member of the executive committee of the American Physical Society Division of Gravitational Physics.
- **Michele Weber** (U. Bern) is member of RECFA representing Switzerland.
- **Xin Wu** (U. Geneva) has been re-elected as CHIPP observer in the Swiss Commission on [Space Research](#) until December 2023.

Several CHIPP members were committed to international responsibilities:

- **Angela Benelli** (CHIPP) has been the Swiss member of the European Particle Physics Communication Network ([EPPCN](#)) since June 2017.
- **Luigi Marchese** is a member of the Organising Committee of the [Italian Oxbridge Society](#) and member of the Zurich and Geneva Oxbridge club.

COORDINATIVE TASKS

Promotion of the next generation

One of the main objectives for CHIPP is to attract the young public to Physics and Astroparticle Physics. To achieve this goal, more than 50 educational events, such as information days for BSc and MSc students, for pupils finishing high school and for high-school classes, were organized, throughout Switzerland, involving more than 4000 young students.

High school students:

Klaus Kirsch gave two interviews to gymnasium students about ‘Responsibility of Physics’ and one about Oppenheimer.

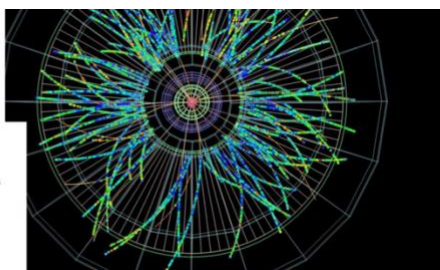
More than (60 UZH,) Swiss high-school pupils were invited to participate in the [International Masterclasses ‘Hands on Particle Physics’](#), where over 13’000 Gymnasium level students in about 215 institutes over 52 countries can actually work with real data from the CERN Large Hadron Collider (LHC).

The EPFL team of researchers organised at the EPFL an LHCb Masterclasses for 21 high-school students (+2 teachers) from Nyon, Pully and Sion, February 16, 2023 and an LHCb Masterclasses for 11 high-school students (+1 teacher) from Lausanne, March 14, 2023.



Accélérateur d'électrons libres

Comprendre la physique au-delà des formules et imaginer un monde où la téléportation est possible, tels sont les objectifs de cette série de semaines pré-universitaires destinées aux électrons libres du secondaire II passionnés de physique.



EPFL's commitment to education includes pre-university courses "Accélérateur d'électrons libres" in [April](#) and [June](#) 2023, complemented with lab visits, fostering scientific curiosity among high school students.

UZH organised 2 informational events for students in the last year before the baccalaureate (Matura) for approximately 200 students, 9 events for 180 students for younger students. Three open days

were organised for 150 children at the UZH.

PhD students:

ETH Zurich Institute for Particle Physics and Astrophysics
Engaging Physics Tutoring **EPT Hub** Supporting Physics Teaching Assistants with trainings and engaging materials for their classes
The EPT summer camp for physics TAs
4-7 June 2023, Morschach
Key topics: engaging teaching, communication, self-management
ept.ethz.ch
"We try to rethink the traditionally rather technical physics exercise class, inspiring TAs and their students to enjoy physics together!"

ETHZ organised (in the organisation committee: Prof. Klaus Kirch PSI/ETHZ and Prof. Günther Dissertori ETHZ) a [summer camp](#) for physics teaching assistants (TAs). During this camp TAs will recall basics of learning and teaching and explore ways how to motivate and engage students, experimenting with student-activation techniques. Additionally, to didactical methods, participants will also learn more about topics of self-management, personal and professional development.

Vira Bondar organizes the [EPT Hub](#). While the main target are physics TAs rather than the public it is

reaching out to all physics and now also beyond. Remarkable events besides many workshops were the [TA summer camp](#) and the more public [Christmas concert](#).

Teacher program:

UZH organised an event for 15 teachers.

In the following we outline a few of the key activities for the general public and high-school students of the past years:

Visits to CERN:

Thea Aarrestad organised a visit to CERN for Google AI Zurich, to see the CMS experiment (~12 participants)

UZH organised 4 visits for 60 Alumni and students. The EPFL team of researchers organised two visits at CERN one to the LHCb experiment, NA62 experiment, AMS control room organized and guided for 77 EPFL MSc students in physics, March 14, 2023 and another one to the LHCb experiment, and Science gateway for 84 BSc students in physics, November 22, 2023.

Visits to PSI:

Visits to the EPFL: several visits were organised to the laboratories at the EPFL for ~30 high-school students as part of the pre-university course "Accélérateur d'électrons libres", April 17-21, 2023, a lab visits at EPFL for ~20 high-school students from Sion, June 23, 2023, and the last lab visits at EPFL for ~30 high-school students, November 24, 2023

Events organized for the public:

Information and coordination tasks supporting research and science

[CHIPP's website](#) contains news, documents, minutes of all meetings, as well as the link to the complete membership database. The continuous dialogue between the institutes, which is enshrined in the [CHIPP Statutes and By-Laws](#), aims at having at hand, in a timely and transparent manner, the information about current and planned research activities. As in previous years, CHIPP took an active role in the biannual meetings of SCNAT's Round Table International Organisations and Research Infrastructures. The scope of this information forum is the exchange between the research fields involving large, international infrastructures. It accounts for the participation of Swiss groups in international research facilities and comprises representatives of the SERI, SNSF, and "Swiss universities".



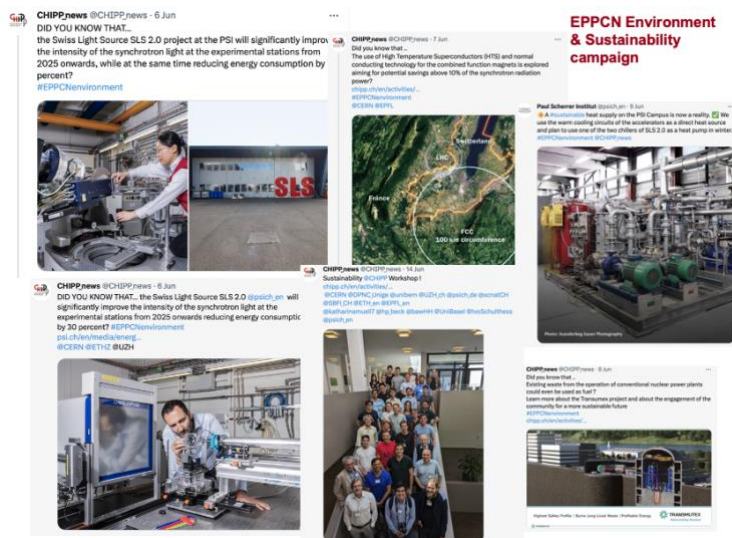
Dialogue with society

The SCNAT offered a firm place with increased visibility among the other fields of science for both the CHIPP website and the more general Physics outreach website (['particlephysics.ch'](#)). The site was kept lively throughout 2023 with the addition of 8 interviews and other news articles. As approved by the CHIPP Board, the articles are authored by B. Warmbein, a science journalist collaborating with CHIPP since many years. Katharina Müller (the University of Zurich) is responsible for their scientific content and Angela Benelli inserted them on the SCNAT portal in Italian, German and English. CHIPP is grateful to SCNAT for supporting this activity as an important dialogue with the society.

During 2023 the CHIPP X/Twitter account [@CHIPP_news](#) has continuously spread physics news to increase the public awareness about science and publicized available jobs in academia and outside for physicists.

A very successful campaign during 2023 was held during the month of June on "Physics Environment & Sustainability" many projects were highlighted on the CHIPP.ch portal and via X/Twitter ([@Chipp_news](#)).

With A. Benelli as the Swiss member in the European Particle Physics Communication Network (EPPCN), CHIPP continues its link between the CERN press office and the Swiss media, as well as with the communication offices of the institutes related to CHIPP. The contact has been established and a measure of the [media coverage of particle physics in Switzerland](#) is provided on-line.



Several articles have been published in magazines and on the CHIPP website, here are some of them:

- January 2023: [Impact of Physics](#) (Prof. HansPeter Beck U. Bern/U.Fribourg)
- January 2023: [Video](#) Radio Television Svizzera Rumantsch on CERN & ATLAS (Prof. HansPeter Beck U. Bern/U.Fribourg)
- February 2023: ["Strange animals" in the spotlight](#) (Prof. Saverio Braccini U. Bern)
- February 2023, [PSI magazine 5232](#), Issue 1/2023 mostly on particle physics at PSI
- February 2023: [Das Higgs-Teilchen und Alzheimer](#) Video on YouTube 13K views (Prof. Günther Dissertori)

- April 2023: [First sighting of neutrinos from a collider collision](#) (Prof. Anna Sfyrla U. Geneva, Ettore Zaffaroni EPFL, Martina Ferrillo UZH)
- April 2023: PSI [Media release](#) in view of the start of the JUICE mission
- May 2023: [Order through kaons](#) (Prof. Radoslav Marchevski EPFL)
- June 2023: [New flavour for Basel](#) (Prof. Admir Grejo U. Basel)
- June 2023: [CHIPP Prize 2023: On a course to discovery](#) (Anne-Mazarine Lyon ETHZ)
- June 2023: [Topolino](#) (Luigi Marchese ETHZ)
- August 2023: [Antihydrogen: check! GBAR completes key step in antimatter research](#) (Prof. Paolo Crivelli ETHZ)
- September 2023: Paolo Crivelli: [Interview by NZZ](#) about ALPHA exp at CERN on the latest results on antihydrogen gravitational behaviour.
- Paolo Crivelli Interview "Le Scienze" (the Italian version of Scientific American) on Dark photons, "Fotoni dal lato oscuro dell'universo"; published in Sept. 2023 "Le Scienze" (n. 661).
- Oct 2023: [Science Gateway: opening the door to CERN and its research](#)
- 15 October 2023: [Public viewing of movie "Her" & podium discussion on AI](#), CERN CineGlobe Film Festival
- Nov 2023: ['Tis the season to do experiments](#)
- Prof. Günther Dissertori co-edited a book on [Big Science](#) in the 21st Century.
- Paolo Crivellis group would like to highlight their latest PRL of NA64, "Search for Light Dark Matter with NA64 at CERN", NA64 Collaboration, Phys. Rev. Lett. 131, 161801, (2023) which was highlighted as editor suggestion.
- 29 Novembre 2023: [RTS interview](#) on the Muon g-2 anomaly

Talks:

The UZH team organised 24 workshops for school classes with 480 participants at the UZH and 3 events in the schools for 210 participants. Here below are several talks that we would like to highlight:

- Thea Aarrestad gave a lecture for ETH students organized by [phi:male](#) around 100 participants
- Rainer Wallny and Günther Dissertori gave evening lectures for the public during the lecture series [Das Universum Verstehen](#) (see below)
- Patrick also did a [public talk](#) about AI in physics as part of the AI month for a science popularisation NGO in Romania.
- Olaf Steinkamp: [Grenzen des Standardmodells](#), Copernicus-Symposium in Nuernberg
- Katharina Müller Das Rätsel der Antimaterie [Open your Eyes](#)
- Laura Baudis Auf der Suche nach dunkler Materie, Science City, ETH Zurich
- Laura Baudis Die verborgene Seite des Universums - auf der Suche nach dunkler Materie Akademie der Wissenschaften und Literatur Mainz
- Laura Baudis: Erhellendes zur Dunklen Materie, Kirche Meilen

ETH zürich



Vortragsreihe «Das Universum verstehen»
Einblick in die Experimente am grössten Teilchenbeschleuniger der Welt

20. September: Was haben das Higgs, Proton und Alzheimer-Pfundeinwirkung gemeinsam?
Prof. Dr. Günther Dissertori, Rektor der ETH Zürich

20. September: Quarks, Higgs und Co. Neues vom Large Hadron Collider
Prof. Dr. Rainer Wallny, Leiter des NA64- und NA62-Experiments, ETH Zürich

2. Oktober: Drama Kernerus für Hansi Reichen
Prof. Dr. Lea Kornblum, Philosophin, Universität Zürich

11. Oktober: Das Rätsel der Antimaterie
Dr. Katharina Müller, Fachlehrerin für Teilchenphysik, Universität Zürich

Jeweils 18.00 Uhr, ETH-Hauptgebäude, Bereich E 7

Wird es auch bei COVID-Ausbreitung, über Code des Universums auf der Plattform

Kostenlos
Eintritt
die Ausbreitung
des COVID-19
und 18.00 Uhr
und 18.00 Uhr



Exhibitions

- Scientifica 23: Largest science fair in



Switzerland

- Romanian Science Festival: Patrick Odagiu went to different middle schools/high schools in Timisoara and the surrounding villages and spoke to students about physics, research, and what the experience of doing a physics degree abroad is like. He also organised university and high school students for a stand at a science fair that took place on the last day of the festival (<https://www.facebook.com/photo/?fbid=721387486655249&set=pcb.721408073319857>)

- We organised a lecture series and photo exhibition on Particle Physics entitled Das Universum verstehen (see poster below). R. Wallny and G. Dissertori from ETH both gave lectures
- Karl Alex Müller – [Pioneer of Superconductivity](#) (UZH), [Gravitational Waves](#) (Science Pavilion UZH), [LHCb](#) (Science Pavilion UZH), [Dark Matter Searches](#) (Science Pavilion UZH), 33 guided tours through the physics exhibitions (about 300 participants)



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