

# CHIPP Board meeting

Welcome to the:

- Board members
- Honorary Board members
- Observers at the Board

New Board members:

Valentina Gallo attends as SNSF observer

Kevin Reymond attends as SERI observer

# Agenda item 1: Agenda

- The final Agenda has been distributed on Tuesday 8 October 2019
- All documents have been made available on a confidential CHIPP internet page.

**Agenda approved ?**

## DECISION ITEMS

### 4. CHIPP activities and Budget 2020

[Tatsuya Nakada]

## DISCUSSION ITEMS

### 5. Updates on the European Strategy in Particle Physics for discussion

[TN]

### 6. APPEC Report for discussion

[Xin Wu]

### 7. Astroparticle Physics International Forum (APIF) for discussion

[TN]

## INFORMATION ITEMS

### 8. SPS/CHIPP joint annual meeting 2020 at the University of Fribourg

[Andreas Schopper]

### 9. Swiss Roadmap Workshop 2020

[TN]

### 10. New professorships at CHIPP institutes: report from each institute

### 11. A.O.B.

## Agenda item 2: Proxy Votes

- The following Proxies have been designated:
  - Klaus Kirch (*for Malte Hildebrandt*)
  - Olivier Schneider (*for Lesya Shchutska*)
  - Ben Kilminster (*for Bodhan Kotlinski*)

## Agenda item 2: Apologies & Quorum

- The following apologies have been received:  
L. Baudis, B. Krusche, M. Weber, B. Kotlinski, A. Signer
- Board members with voting rights: 64
- Quorum (1/3 of Board): 21 votes, reached ?
  - 3 proxy
  - 1 electronic vote Budget & Activities 2020
  - 1 video-conference

# Agenda item 3: Minutes of the last meeting

- Final draft minutes of the CHIPP Board 2019-02 (02.07.2019) have been made available on [www.chipp.ch](http://www.chipp.ch) together with the other Board documents.

## **The Board is invited**

- **to approve** the minutes of the last meeting

Base: Art. 27, litt. a; simple majority

# Agenda item 4: **CHIPP activities and Budget 2020**

The specific CHIPP activities for 2020 are:

- The Zuoz Summer PhD School (financial support)
- The CHIPP Annual Plenary as part of the SPS/CHIPP Annual meeting (organization, program and active participation)
- The MLHEP 2020 School (financial support)
- The RoadMap 2020 Workshop (organization, program and active participation)

The CHIPP outreach activities:

- The dialogue with the society through the SCNAT thematic portal on particle physics
- The CHIPP membership in IPPOG (outreach strategy and activities)
- Possibly other targeted outreach activities as the maintenance of the CHIPP Twitter account.

# SCNAT funding requests

Presentation for information **PRELIMINARY**

To be confirmed the 14 November

We submitted the requests for funding the 20 August:

|  | Requested<br>(CHF) | Granted<br>(CHF) |
|--|--------------------|------------------|
| <b>Zuoz School<br/>2020</b>            | 10'000             | 9'000            |
| <b>MLHEP2020</b>                       | 9'400              | 8'000            |
| <b>IPPOG<br/>membership</b>            | 3'500              | 3'500            |
| <b>Dialog with<br/>society</b>         | 10'000             | 9'000            |
| <b>Swiss Roadmap<br/>Workshop 2020</b> | 10'000             | 5'000            |

# Zuoz Summer School 9-15 August 2020



## Vision and Precision

<https://www.psi.ch/particle-zuoz-school>

Registration will open in November

Adrian Signer, Michael Spira, Anita van Loon-Govaerts, [zuoz2020@psi.ch](mailto:zuoz2020@psi.ch)

Nicolas Berger (Annecy)

Statistics

Jamie Boyd (CERN)

From raw data to physics

Vincenzo Cirigliano (Los Alamos)

EFT and low-energy probes of new physics

Barbara Jäger (Tübingen)

Perturbative (QCD) calculations

Angela Papa (Pisa/PSI)

Low-energy experiments

Renato Renner (ETH)

Foundations of quantum mechanics

Andrea Wulzer (Padova)

The big questions

Program Committee:

A.Bay, G.Dissertori, G.Iacobucci, G.Isidori,  
K.Kirch, U.Langenegger, R.Rattazzi, N.Serra,  
A.Sfyrla, A.Signer, M.Spira, R.Wallny, M.Weber



**MLHEP 2020 @ EPFL**

Lesya Shchutska

October 17, 2019

## MLHEP: Machine Learning in High Energy Physics Summer School

The school is initiated and maintained by Yandex School of Data Analysis:  
full LHCb member and lightweight CMS member.

Previous iterations of the school:

- ① <https://indico.cern.ch/event/439520/>: St Petersburg, Russia, LHCP2015
- ② <https://indico.cern.ch/event/497368/>: Lund, Sweden, LHCP2016
- ③ <https://indico.cern.ch/event/613571/>: Reading, UK
- ④ <https://indico.cern.ch/event/687473/>: Oxford, UK
- ⑤ <https://indico.cern.ch/event/768915/>: DESY, Germany
- ⑥ <https://indico.cern.ch/event/838377/>: Lausanne, Switzerland
  - page is not public yet

## School scope

- school motivation:
  - *“There are plenty of essential problems in high energy physics that can be solved using Machine Learning methods. These vary from online data filtering and reconstruction to offline data analysis.”*
- content:
  - a theoretical and practical introduction to ML methods
  - concrete examples and hands-on tutorials
  - a special data-science competition with a winner at the end
  - goal: application of the new knowledge to participants’ own problems
- target audience: PhD students and postdocs, Master students possible
- typical size: 60-70 participants
- speakers:
  - “core” speakers are from Yandex
  - 2-3 “invited” speakers from HEP and industry for topical presentations
- duration: 7-10 days

## Organizers and advisory board

<https://indico.cern.ch/event/768915/page/15157-committees>

### Organising Committee

Irina Plisetskaya (HSE, Russia)  
Andrey Ustyuzhanin (YSDA, HSE, Russia)

### Program Committee

Denis Derkach (YSDA, HSE)  
Nikita Kazeev (YSDA, HSE)  
Alexander Panin (YSDA, Yandex)  
Andrey Ustyuzhanin (YSDA, HSE)

### Advisory Board

Andrey Golutvin (Imperial College London, UK)  
Daniel Whiteson (UCI, US)  
Kyle Cranmer (NYU, US)  
David Rousseau (LAL, France)  
Vincenzo Vagnoni (INFN, Italy)  
Victor Egorychev (ITEP, Russia)  
Tommaso Dorigo (INFN, Italy)  
Maurizio Pierini (CERN)  
Marcin Chrzęszcz (UZH, Switzerland)  
Guenakh Mitselmakher (UFL, US)  
Sergey Gleyzer (UFL, US)  
Tobias Golling (UNIGE, Switzerland)  
Jean-Roch Vlimant (California Institute of Technology, US)  
Vladimir Gligorov (LPNHE, France)  
Mike Williams (MIT, US)  
Tim Head (Wild Tree Technologies, Switzerland)  
Alexei Klimentov (BNL, US & NRC "Kurchatov Institute", Russia)

## MLHEP2020 @ EPFL: Organizational matters

- venue: Cubotron building



- school dates: 16 – 30 July 2020
- includes two week-ends
- the duration is driven by accommodation booking quantization (min. 2 weeks)
- lunches / coffee-breaks: UNIL and EPFL cafeteria and catering
- accommodation: prebooked 60 rooms in Vortex @ 450–600 CHF (final confirmation/price possible only in February)
- preliminary registration fee: 380 CHF (coffee-breaks & social events)
- submitted a proposal to SCNAT for 9.4kCHF

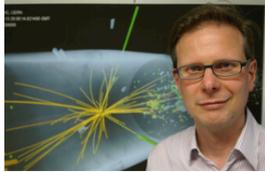
- **Vortex**: being built for **Youth Olympic Games** in January 2020



## Advertisement of the school within CHIPP

- typically a (pre-)registration is open in January-February due to the long selection process
- at EPFL, will also attach ECTS credits for the doctoral school: can be considered for other universities as well
- hope to have high Swiss participation and benefit from the convenient location and timing!

# Dialog - 2019 articles



10.01.2019 | CHIPP | News | Press release

## The FCC provides science for almost a century

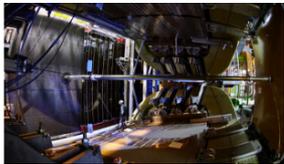
In spring 2020 the European particle physics community will decide on a new European Strategy highlighting the strategic long-term goals in this important field of fundamental research. In December 2018 Swiss scientists – organized by the Swiss Institute of Particle Physics / CHIPP – have formulated their input to the...



28.02.2019 | CHIPP | News | Press release

## Anna Soter Wants to use Exotic Atoms for a Subtle Experiment

Gravity accompanies us in our everyday lives—from early morning, when we get out of bed, to late evening, when we drop tiredly onto the mattress. Although no other force of nature shapes our lives as much as gravity, we still know little about it. Many scientists around the world are working to uncover the secrets of gravity. One of...



21.03.2019 | CHIPP | News | Press release

## The LHCb collaboration at CERN has discovered a type of CP violation unobserved so far

The LHCb collaboration at CERN has seen, for the first time, the matter–antimatter asymmetry known as CP violation in a so-called D0 meson. LHCb is one of the four large experiments performed at the Large Hadron Collider (LHC) with Swiss participation of Ecole polytechnique fédérale de Lausanne...



12.04.2019 | CHIPP | News | Press release

## The Innovation Park "PARK INNOVAARE" in Villigen (AG) supports start-up companies in the field of accelerator technology.

CERN in Geneva is the leading particle physics laboratory worldwide. Large particle accelerators based on the most innovative technologies are used there for fundamental research. One year ago, the innovation park "PARK INNOVAARE" in Villigen (AG) launched, together with CERN, the BIC of...



03.05.2019 | CHIPP | News | Press release

## Every second fifty terabits of data

From 2026, the performance of the large-scale experiments at the European particle physics laboratory, CERN, in Geneva will be significantly increased. The preliminary work for the upgrade of the large particle accelerator LHC and the associated detectors is currently in full swing. An important contribution...



21.05.2019 | News | Press release

## The XENON1T experiment in the Italian Gran Sasso Laboratory has measured the most protracted radioactive decay ever

Radioactive waste from nuclear power plants can take a long time to decay. For plutonium-239 the half-life - that is the time until half of the atoms of a sample have decayed - is no less than 24,000 years. But this is nothing compared to the half-life of the noble gas xenon-124, as an international research...



28.08.2019 | CHIPP | News | Press release

## CHIPP Prize 2019 goes to PSI researcher Dr. Michał Rawlik

Michał Rawlik, scientist at the Swiss Federal Institute of Technology in Zurich (ETHZ) is awarded the CHIPP Prize 2019. The 29-year-old researcher receives the award for his doctoral thesis on the electric dipole moment of the neutron. The experiment he co-developed could one day help answer the...



24.09.2019 | CHIPP | News | Press release

## Callum Wilkinson prepares the DUNE experiment at the University of Bern

In 2025, the 'Deep Underground Neutrino Experiment' (DUNE) will be launched in the north of the USA, with which physicists want to learn more about neutrino - a still mysterious elementary particle. An important component of the DUNE experiment is currently being prepared by scientists from the...

And more to come ..

| EXPENDITURE   | Budget          | Budget         | Budget         | Financial P    |                |                |
|---|-----------------|----------------|----------------|----------------|----------------|----------------|
|   | (final)<br>2018 | 2019           | 2019           | 2020           | 2021           | 2022           |
| <b>Total expenses</b>   | <b>140'573</b>  | <b>140'700</b> | <b>130'274</b> | <b>145'830</b> | <b>149'200</b> | <b>149'200</b> |
| Membership fees   | 6'784           | 7'000          | 6'636          | 7'000          | 6'800          | 6'800          |
| Membership in SCNAT   | 3'206           | 3'500          | 3'136          | 3'500          | 3'500          | 3'500          |
| Membership in IPPOG   | 3'578           | 3'500          | 3'500          | 3'500          | 3'300          | 3'300          |
| Schools & Conferences   | 22'504          | 17'700         | 14'924         | 26'430         | 24'000         | 24'000         |
| CHIPP PhD School (parts from SCNAT)                             |                 | 12'700         | 9'924          |                | 12'000         | 12'000         |
| PhD/PostDocs days   |                 |                |                |                |                |                |
| Zuoz  | 10'000          |                |                | 11'000         |                |                |
| Workshop (SWICH/Roadmap)  | 12'504          |                |                | 6'000          | 12'000         | 12'000         |
| PSI 2019 / MLHEP2020  |                 | 5'000          | 5'000          | 9'430          |                |                |
| reserve   | 0               | 0              | 0              | 0              | 0              | 0              |
| Communication & Outreach  | 32'000          | 30'000         | 29'000         | 30'000         | 31'000         | 31'000         |
| PCN member (parts from SERI & CERN)                             | 20'000          | 20'000         | 20'000         | 20'000         | 20'000         | 20'000         |
| Dialogue (parts from SCNAT)                                     | 12'000          | 9'000          | 9'000          | 9'000          | 10'000         | 10'000         |
| copies/mail/phone   | 0               | 1'000          | 0              | 1'000          | 1'000          | 1'000          |
| CHIPP Prize   | 3'000           | 4'500          | 3'000          | 4'500          | 4'500          | 4'500          |
| Prize money   | 3'000           | 3'000          | 3'000          | 3'000          | 3'000          | 3'000          |
| travel expenses   | 0               | 1'500          | 0              | 1'500          | 1'500          | 1'500          |
| CHIPP Meetings  | 966             | 2'000          | 1'941          | 2'000          | 2'000          | 2'000          |
| CHIPP Board Meetings  | 223             | 700            | 185            | 700            | 700            | 700            |
| CHIPP EB Meetings   | 504             | 300            | 721            | 300            | 300            | 300            |
| CHIPP Plenary (invited speakers,<br>Administrator, sceretariat) | 239             | 1'000          | 1'035          | 1'000          | 1'000          | 1'000          |
| Operations  | 73'399          | 78'000         | 72'873         | 74'000         | 79'000         | 79'000         |
| fund  | 71'550          | 77'000         | 71'600         | 72'000         | 78'000         | 78'000         |
| travel and other expenses                                       | 1'849           | 1'000          | 1'273          | 2'000          | 1'000          | 1'000          |
| SCNAT Amministration  | 1'920           | 1'500          | 1'900          | 1'900          | 1'900          | 1'900          |

**2018**

**2019**

**2020**

| <b>INCOME</b>                     |                |                |                |                |                |                |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total income</b>               | <b>133'780</b> | <b>124'200</b> | <b>124'230</b> | <b>134'530</b> | <b>137'500</b> | <b>137'000</b> |
| contributions from CHIPP members  | 79'480         | 80'000         | 80'030         | 80'030         | 84'000         | 84'000         |
| contribution from SCNAT           | 34'300         | 24'200         | 24'200         | 34'500         | 33'500         | 33'000         |
| for CHIPP School & MLHEP          |                | 10'300         | 8'700          | 8'000          |                |                |
| for ZuoZ                          | 8'000          |                |                | 9'000          | 10'000         | 10'000         |
| for Workshops (PSI / SWICH)       | 11'000         | 10'000         | 3'000          | 5'000          | 10'000         | 10'000         |
| for Outreach (SCNAT)              | 7'000          | 10'000         | 9'000          | 9'000          | 6'000          | 6'000          |
| for Outreach (MAP)                | 5'000          | 0              | 0              | 0              | 4'000          | 4'000          |
| for IPPOG                         | 3'300          | 3'500          | 3'500          | 3'500          | 3'500          | 3'000          |
| contributions from CERN           | 5'000          | 5'000          | 5'000          | 5'000          | 5'000          | 5'000          |
| for EPPCN                         | 5'000          | 5'000          | 5'000          | 5'000          | 5'000          | 5'000          |
| contributions from SERI           | 15'000         | 15'000         | 15'000         | 15'000         | 15'000         | 15'000         |
| for EPPCN                         | 15'000         | 15'000         | 15'000         | 15'000         | 15'000         | 15'000         |
| other contribution                | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>BALANCE</b>                    |                |                |                |                |                |                |
| <b>Balance</b>                    | <b>-6'793</b>  | <b>-16'500</b> | <b>-6'044</b>  | <b>-11'300</b> | <b>-11'700</b> | <b>-12'200</b> |
| <b>Asset at start of the year</b> | <b>55'745</b>  | <b>48'952</b>  | <b>48'952</b>  | <b>32'452</b>  | <b>21'152</b>  | <b>9'452</b>   |

| 2019                  | total COST | income | SCNAT | CHIPP |
|-----------------------|------------|--------|-------|-------|
| Winter Schoo          | 34614      | 24690  | 8700  | 1224  |
| Plenary 2019          | 27793      | 26757  |       | 1036  |
| PSI 2019              |            |        | 3000  | 2000  |
| Membership            |            |        | 3'500 | 3'136 |
| EB/Board              |            |        |       | 906   |
| CHIPP Prize           |            |        |       | 3000  |
| Amin postfinanceSCNAT |            |        |       | 1900  |
|                       |            |        |       | 13202 |

Salary Admin CHIPP

72'000 CHF

Prize

3'000 CHF

SCNAT

3'200 CHF

1'800 CHF

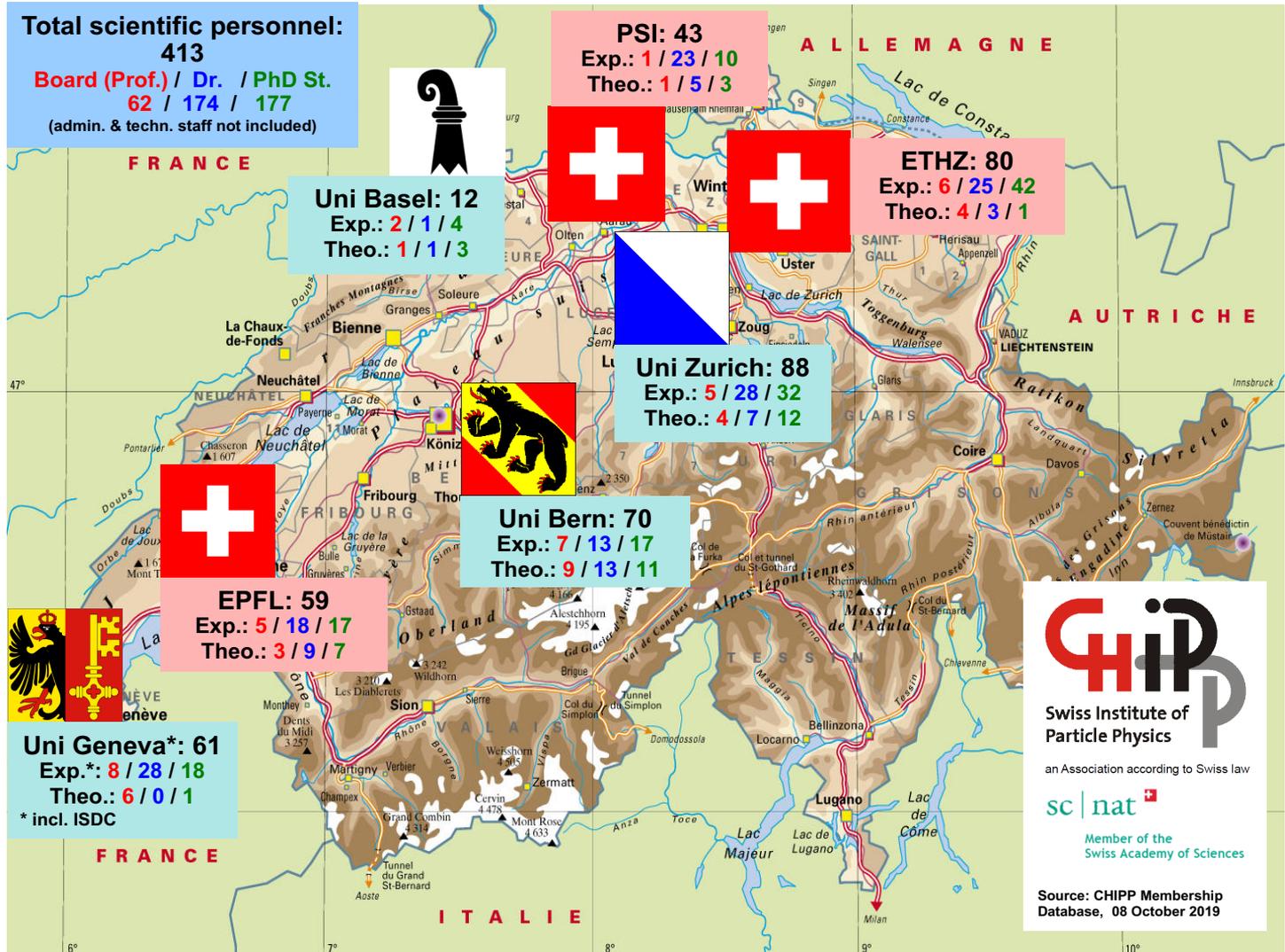
**TOTAL:**

**80'000 CHF**

| 2020                  | total COST | income | SCNAT | CHIPP |
|-----------------------|------------|--------|-------|-------|
| Zuoz school           |            |        | 9000  | 2000  |
| Roadmap 2020          |            |        | 5000  | 1000  |
| MLHEP2020             |            |        | 8000  | 0     |
| Membership            |            |        | 3'500 | 3'500 |
| EB/Board              |            |        |       | 0     |
| CHIPP Prize           |            |        |       | 4500  |
| Amin postfinanceSCNAT |            |        |       | 1900  |
|                       |            |        |       | 12900 |

| Institute          | Total members | Honorary Members | Individual contribution | Total individual contributions | Institutional fee | Grand total   |
|--------------------|---------------|------------------|-------------------------|--------------------------------|-------------------|---------------|
| <b>BS</b>          | 7             | 0                | 110                     | 770                            | 1'000             | 2'320         |
| <b>BS Theory</b>   | 7             | 2                | 110                     | 550                            |                   |               |
| <b>BE</b>          | 39            | 2                | 110                     | 4'070                          | 5'600             | 13'300        |
| <b>BE Theory</b>   | 34            | 1                | 110                     | 3'630                          |                   |               |
| <b>GE</b>          | 57            | 4                | 110                     | 5'830                          | 5'600             | 12'310        |
| <b>GE Theory</b>   | 7             | 0                | 110                     | 770                            |                   |               |
| <b>GE ISDC</b>     | 2             | 1                | 110                     | 110                            |                   |               |
| <b>ZH</b>          | 91            | 3                | 110                     | 9'680                          | 5'600             | 15'280        |
| <b>EPFL</b>        | 41            | 1                | 110                     | 4'400                          | 5'600             | 12'090        |
| <b>EPFL Theory</b> | 19            | 0                | 110                     | 2'090                          |                   |               |
| <b>ETHZ</b>        | 74            | 2                | 110                     | 7'920                          | 5'600             | 14'400        |
| <b>ETHZ Theory</b> | 11            | 3                | 110                     | 880                            |                   |               |
| <b>PSI</b>         | 44            | 1                | 110                     | 4'730                          | 5'600             | 10'330        |
| <b>CERN</b>        | 27            | 0                | 0                       | 0                              | 0                 | 0             |
| <b>Total</b>       | 460           | 20               |                         | 45'430                         | 34'600            | <b>80'030</b> |

# Swiss Particle Physics Landscape 2020



**The Board** (in application of Article 27, litt. a, and litt. u) is requested

- ✓ **to approve** the CHIPP activities for 2020,
- ✓ **to approve** the CHIPP budget 2020 as resulting from the approved activities (above), and
- ✓ **to approve** the membership fee as well as the institutional fee as set out above.

Required majority: simple

# Votes for Budget 2020 ...

**abstention:**

**favor:**

**against:**

**Laura Baudis**

# Updates on the European Strategy in Particle Physics

- **T. Nakada**

# List of question from PPG

## **Note that**

- **Statements expressed in the European Strategy have been at high level and not on specific experiments nor small projects**

# List of questions 1

In the absence of clear indications for new physics, is a broad exploration an adequate approach for our global field? Do we want to move forward in the largest variety of directions?

**Swiss input: broadly speaking YES**

Would it be appropriate/sufficient to move the scientific diversity program at CERN or at the National Institutes to among the highest priorities for Europe? Should the strategy engage in ranking proposals according to priority? Which are the key proposals?

Swiss input: stress the importance of the roles played by national laboratories, e.g. PSI, in this field. Interest by the Swiss community on the beam dump facilities at CERN mentioned.

Should we consider statements to strengthen the LHC and HL-LHC program? Should we stimulate the creation of coordinated programs at CERN and/or in Europe, e.g. AI@LHC for both data analysis and for control of instruments, etc?

Swiss input: HL-LHC would be the highest priority item. Computing indicated as an important subjects.

Should we also support the fixed-target projects at (HL-)LHC?

Swiss input: No discussion.

Because of the competition for the Interaction Region at Point-2@LHC, should we consider for the period beyond LS4 a choice between the next generation heavy-ion experiments at the HL-LHC and the LHeC?

Swiss input: No discussion.

Do we remain open towards strong participation in future collider programs outside Europe? Should such a statement remain among the highest priorities? Should we extend the scope to include a variety of options like ILC@Japan, EIC@US, CEPC@China, ... ?

# List of questions 2

**1. Do we remain open towards strong participation in future collider programs outside Europe? Should such a statement remain among the highest priorities? Should we extend the scope to include a variety of options like ILC@Japan, EIC@US, CEPC@China, ... ?**

**Swiss input: We restricted our discussion to the European matters.**

**2. Anno 2013: “CERN should develop a neutrino programme to pave the way for a substantial European role in future long-baseline experiments. Europe should explore the possibility of major participation in leading long-baseline neutrino projects in the US and Japan.” Is the continuation of the CERN Neutrino Platform appropriate? Should we propose to extend the scope of the Neutrino Platform beyond long-baseline neutrino projects?**

**Swiss input: Neutrino Platform should continue and even extended if necessary.**

**3. Anno 2013: “Europe should support a diverse, vibrant theoretical physics programme, ranging from abstract to applied topics, in close collaboration with experiments and extending to neighbouring fields such as astroparticle physics and cosmology. Such support should extend also to high-performance computing and software development.” Should we strengthen this statement? Should we provide guidance how to achieve this?**

**Swiss input: CERN should explore contributing to well selected astroparticle physics experiments where CERN participation can make a unique contribution (including computing)**

# List of questions 3

**“Detector R&D programmes should be supported strongly at CERN, national institutes, laboratories and universities. Infrastructure and engineering capabilities for the R&D programme and construction of large detectors, as well as infrastructures for data analysis, data preservation and distributed data-intensive computing should be maintained and further developed.”**

**Should we strengthen this statement? Should we provide guidance how to achieve this? For example, related to new R&D cluster programs at CERN and in Europe, and related to the balance between blue sky R&D versus focused R&D.**

**Swiss input: Particle physics should remain the driving force in the development of those areas.**

Should we make concrete the technology collaboration with the gravitational wave community?

**Swiss input: No input.**

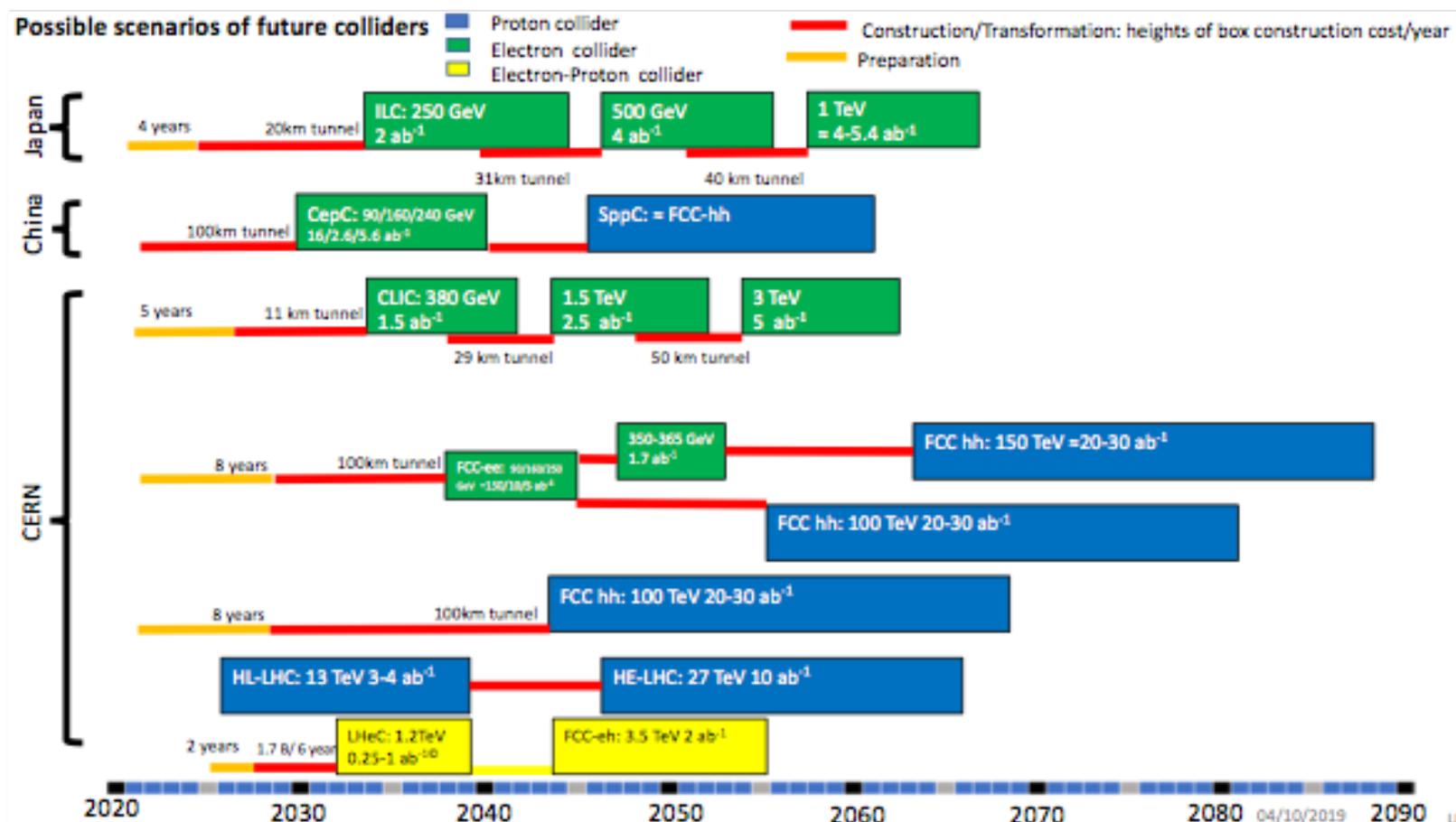
Should the HE-LHC feature in our strategy update?

**Swiss input: No input.**

In the context of the LE-to-HE-FCC-h/e/A scenario, would an adiabatic evolution from 6T to 16T/HTS magnets for FCC-h/e/A be an avenue to explore?

**Swiss input: This option not considered.**

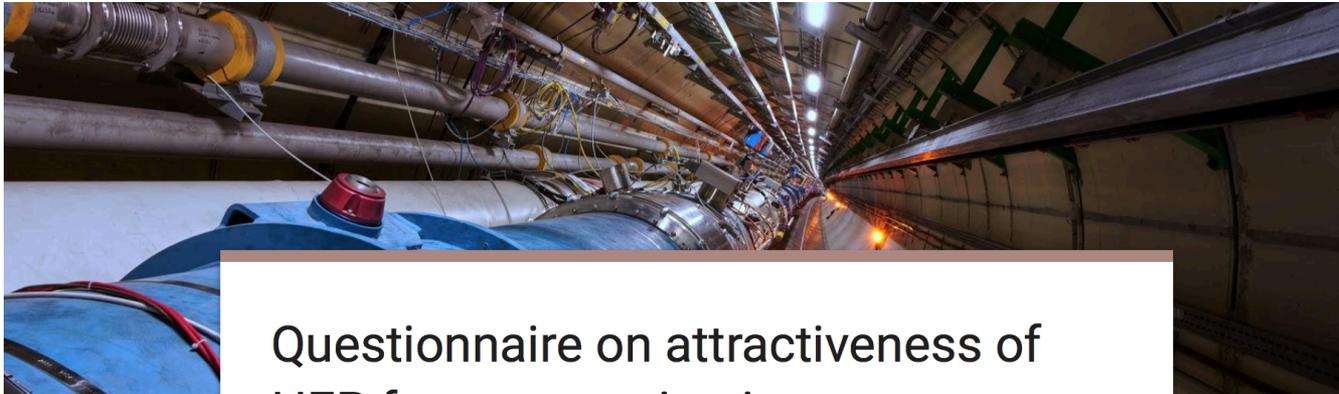
|                    | 2020-2040     | 2040-2060                        | 2060-2080                               |
|--------------------|---------------|----------------------------------|---|
|                    |               | 1st gen technology               | 2nd gen technology                      |
| CLIC-all           | HL-LHC        | CLIC380-1500                     | CLIC3000 / other tech                   |
| CLIC-FCC           | HL-LHC        | CLIC380                          | FCC-h/e/A (Adv HF magnets) / other tech |
| FCC-all            | HL-LHC        | FCC-ee (90-365)                  | FCC-h/e/A (Adv HF magnets) / other tech |
| LE-to-HE-FCC-h/e/A | HL-LHC        | LE-FCC-h/e/A (low-field magnets) | FCC-h/e/A (Adv HF magnets) / other tech |
| LHeC-FCC-h/e/A     | HL-LHC + LHeC | LHeC                             | FCC-h/e/A (Adv HF magnets) / other tech |



## ECFA Chair request:

The Working Group for Social and Career Aspects for the Next Generation (chaired by Eric Laenen) within the context of the **update of the European Strategy for Particle Physics** prepared a brief questionnaire on the topic of the attractiveness of HEP for your scientists.

Sent by email to PhD and Postdoc.



## Questionnaire on attractiveness of HEP for young scientists

This brief inquiry, addressed to young scientists (PhD students, postdoctoral fellows and young staff members), is held in the context of the European Strategy Update for Particle Physics, by a working group of the European Strategy Group addressing social and career aspects for the next generation of particle physicists. The goal is not to instigate a comprehensive survey, but rather to get the first impression of aspects that make the field more, or less, attractive to enter into. To this end we kindly invite you to address a few questions, each with a number of possible answers, but also having an option to supply your own, which we encourage. Naturally, your answers will be kept completely anonymous, and the input forms, once the answers are compiled, will be deleted. Results will be used only collectively.

We thank you in advance for the time you are willing to spend on this.

European Strategy Working Group on Social and Career Aspects for the Next Generation

\* Required

What made you choose to enter high-energy physics (HEP)? \*

# APPEC Report

- **X. Wu**

Joint Seminar APPEC-ECFA- NUPPEC → 14-16 Oct. 2019, Paris

T. Montaruli asked to discuss within CHIPP if the Geneva Astronomy Department should participate in CTA as CHIPP or CHAPS member.



# APPEC Issues

**Xin Wu (UNIGE)**  
**Swiss Delegate to the APPEC General Assembly**

**CHIPP Board meeting,**  
**Bern, 17 October, 2019**



**UNIVERSITÉ  
DE GENÈVE**

**FACULTÉ DES SCIENCES**  
Département de physique  
nucléaire et corpusculaire

## Important issue: Towards Sustainable APPEC

- Oct. 15 GA delegates received an email and a draft document on from the APPEC General Secretary (**Job de Kleuver**), stating:
  - **At the GA meeting in May 2019, it was agreed**
    - Current **distributed model** of Functional Centers is not sustainable
      - Functional centers are understaffed and activities indicated in the MoU cannot be sustained
      - In-kind contributions offered by participating countries are unbalanced
      - No in-kind contributed FTEs can be guaranteed in the future if collective dedicated efforts to APPEC are not substantially increased
    - Stronger APPEC is needed
- Draft document: **“Path towards sustainable APPEC”** (attached to the agenda)
  - **Propose a new central-office model, with at least 4 FTEs**
    - Currently 0.6 FTE NWO in-kind, 1 FTE DESY in-kind, 0.2 FTE KIT Common Fund
  - **Alternative models equally able to support sustainable APPEC (including the Functional Center model APPEC is currently based on, but more efficient) will be also considered and evaluated**

## Schedule for this new initiative

- **Now-until **November 10, 2019****
  - **Discuss the new approach with/within your agencies**
  - **Send us your feedback to Teresa (Chair), Christian (Deputy Chair) and Job**
- GA Meeting on December, 3 2019 in Lisbon
  - Approval of the document “Path towards sustainable APPEC” and choice of an effective approach for the future
  - Collection of informal candidatures to either host the APPEC central office, or apply an alternative approach
- Early Spring 2020
  - Deadline to send in bids to host APPEC central office, or official applications of an credible alternative approach
- GA Meeting in Spring 2020 in Amsterdam
  - Discussion of collection of official candidatures to host the APPEC central office together with a business plan and official applications, or alternative approach
  - If possible voting and decision

## The APPEC office

- The APPEC central office will be hosted by a country which will cover about **half of the costs** (excluding the General Secretary) and also **provide the rooms as in-kind contribution**. The other half of the costs will have to be covered by corresponding contributions from the APPEC members.
- The **General Secretary** will head the APPEC central office and will be in charge **for 5 years**.
  - The General Secretary can belong to any of the countries represented in the General Assembly and would ensure **at least 50% of time** for the coordination of APPEC activities. **Cost covered by Common Fund**.
- The **APPEC Chair** can belong to any of the countries represented in the General Assembly, which votes for him/her on a **2-year, not consecutively repeatable term**. He/she has the super-partes role of coordinating the duties of the General Assembly and **works exclusively on an in-kind-contribution base**.

## The FTEs

- The minimum amount of FTEs to ensure the applicability of sustainable APPEC has been estimated as **at least 4 FTEs** (not including the Chair).
- The minimum amount
  - 1) The APPEC Chair (**in-kind-contribution**)
  - 2) 0.5 FTE  $\leq$  General Secretary or Director of the Joint APPEC Office.
  - 3) 0.5 FTE  $\leq$  the contact person to the EU.
    - Considering the experience needed by this person, this role could be covered by the General Secretary in the other 50% of his/her working time.
  - 4) 1 FTE  $\leq$  Officer for international and industry contacts.
    - 1) This person is the contact to the national funding bodies and industry
  - 5) 0.75 FTE  $\leq$  Officer for Network and Strategic Actions
  - 6) 0.75 FTE  $\leq$  Officer responsible for outreach
  - 7) 0.5 FTE  $\leq$  Secretary to support
- Details in the draft document attached to the Agenda

## Call for bids to host the APPEC central office

The bid will have to propose a **detailed business plan**, including:

1. A prospect analyzing the costs of sustainable APPEC:
  - the first year; the second and third year; the projection in the following 2-3 years
2. The description of the proposed legal form suitable for sustainable APPEC including the time schedule (e.g. German gGmbH, Belgian AISBL or another suitable legal form, based in a country involved in APPEC);
3. The correspondent costs;
4. The number of FTEs dedicated to the different tasks;
5. The cost of each FTE, overheads and room space;
6. The division of the total costs between the host (at least 50% of FTEs for items 3) to 7), all overheads and room space) and the other APPEC partners through the common fund (50% of FTEs for items 3) to 7) and at least 0.5 FTE for item 2));
7. The APPEC income (partner fees, to be decided in agreement with the partners);
8. Foreseen APPEC costs (meetings, events, school supports, ... based on past APPEC management reports);
9. Unforeseen APPEC costs (depending on the chosen legal form, past APPEC management reports, etc.).

- Nomination of new members of the APPEC SAC (Scientific Advisory Committee)
  - Aug. 27: request from General Secretary received
  - Sept. 8: request sent to CHIPP board members soliciting suggestion
  - Sept. 27: suggest two candidates to CHIPP EB
    - Michele Weber of Bern and Toni Riotto of Geneva
  - Oct. 7: two candidates endorsed by CHIPP EB
  - Oct. 8: two candidates endorsed by CHIPP EB
  - Oct. 8: Swiss nominations sent to the APPEC General Secretary
    - GS will propose 5 new members, after consultation with the SAC Chair, for approval at the General Assembly meeting on Dec. 3
    - The appointments, for a period of 3 years renewable once, are "ad personam", solely on the basis of scientific competence

# Current APPEC SAC composition

## APPEC SAC - summer 2019

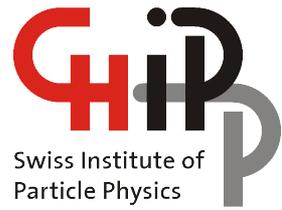
| COUNTRY     | Cosmic rays      | High-Energy Photons | Ultra-High Energy neutrinos | Gravitational waves | Neutrino Properties | Neutrino Mass | Dark Matter                    | Dark Energy | Cosmology CMB | Theory          |
|-------------|------------------|---------------------|-----------------------------|---------------------|---------------------|---------------|--------------------------------|-------------|---------------|-----------------|
| Belgium     |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| France      |                  |                     |                             |                     | Marco Zito          |               |                                |             | Ken Ganga     |                 |
| Germany     |                  |                     | Gisela Anton                | Karsten Danzmann    |                     |               |                                |             |               | Manfred Lindner |
| Italy       |                  |                     |                             |                     | Marco Pallavicini   | Mauro Mezzeto |                                |             |               |                 |
| Ireland     |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| Netherlands | Sijbrand de Jong |                     |                             | Jo van den Brand    |                     |               |                                |             |               |                 |
| Poland      |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| Russia      |                  |                     |                             |                     |                     |               |                                |             |               | Sergey Troitsky |
| Spain       |                  |                     |                             |                     |                     |               |                                |             | Ramon Miquel  |                 |
| Sweden      |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| Switzerland |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| UK          |                  | Paula Chadwick      |                             |                     |                     |               | Laura Baudis<br>Jocelyn Monroe | Ofer Lahav  |               |                 |
| China       |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| USA/Canada  |                  |                     |                             |                     |                     |               |                                |             |               |                 |
| CERN        |                  |                     |                             |                     |                     |               |                                |             |               |                 |

|       |                                      |
|-------|--------------------------------------|
| Green | member since June 2018               |
| Black | member with term until December 2019 |

- Laura Baudis is the current Chair of the SAC

## Discussion

- The new central-office model
  - I would like to have a consensus from the CHIPP Board before I consult SNF
- Any interest to host the Joint APPEC Office in Switzerland?
  - Deadline is early Spring next year



# Astroparticle Physics International Forum (APIF)

- **T. Nakada**

# Astroparticle Physics International Forum (APIF)

**The Organisation for Economic Co-operation and Development (OECD) established APIF in 2011, following a report summarizing the emerging interdisciplinary field of APP**

recommending “that a venue be created for consultations of the officials of the funding agencies for the purpose of facilitating a globally coherent response to the scientific opportunities in APP”.

**APIF continues as independent structure since 2017**

under the “APIF Agreement”, now hosted by Kavli Institute in Stanford, under chairmanship of Prof. R. Blandford (FALC model, no subscription).

## **ARTICLE 2 – OBJECTIVES OF APIF**

APIF serves as a venue for exchange of information and consultation on astroparticle physics, including, inter alia, dark matter, dark energy, cosmic microwave background, high-energy messengers (including charged particles, gamma rays and neutrinos), gravitational waves, proton decay and neutrino mixing, and neutrino mass.

## Participation in APIF

**“Participation in APIF is open to individuals nominated by national funding agencies or ministries with responsibility for astroparticle physics.”**

- **Present membership includes representatives from US DOE, US NSF, France CEA, France CNRS, INFN, UK Science and Technology Facilities Councils, Netherlands, Chinese Academy of Sciences, Japan, South Korea, Israel, Brazil, South Africa, Spain, India...**

“outside the presence of scientists who might be tempted to lobby for their areas or projects. “ (M. Turner)

**Switzerland has been represented by SERI**

**SERI has informed SCNAT and myself that from now on the responsibility belongs to SCNAT**

**SCNAT has designated the Platform MAP, which supports the next APIF meeting (in Japan ,Nov 2019).**

**For 2021 on, MAP requests the view of CHIPP**



## Benefits:

- Production of a twice yearly report on APIF activities, in particular plans from funding agency sources on APP.
  - Ex: US- DOE, NSF, China, Japan, South Korea, Latin America,...
  - Essential for SCNAT new roadmap responsibilities
- Reports on visits to astroparticle physics facilities
  - Ex: LHASSO
- International visibility for Swiss particle physics and astrophysics research and research management
  - Ex: «2019 Swiss Roadmap for Research Infrastructures»
  - Ex: the OECD Global Science Forum document “**Strengthening the effectiveness and sustainability of international research infrastructures**”
  - Ex: application of SCOAP3 Open Access policy to APP ???
- **Cost: no subscription, 2 meetings/year**

Maurice Bourquin October 7, 2019

# Agenda item 8: SPS/CHIPP joint annual meeting in Fribourg

**A. Schopper**

**29-3 July 2020 University Fribourg**

**SPS Membership fees for CHIPP members**

SPS/CHIPP Round Table with Journalists, physicists and ..  
Politicians ?  
Web Influencers?

# Agenda item 9: Swiss Roadmap Workshop 2020

**WHY:** To set the Swiss priorities after the ESPPU process has been concluded

**Who:** all CHIPP members

**When:** 25-26 June 2020

**Where:** Kandersteg

**Prize:** max 250 CHF



- **From the CERN Council**

The Council appointed **Prof. Leonid Rivkin** (PSI-EPFL) as Chair of the Scientific Policy Committee, and **Dr. Laurent Salzarulo** (State Secretariat for Education, Research and Innovation) as Vice-Chair of the Finance Committee, both for first terms of office of one year with effect from 1 January 2020.

- **From the University of Fribourg**

**Hans Peter Beck** has been appointed Professor at the University of Fribourg

Promotion d'un chargé  
de cours passionné en  
physique



Le Docteur Hans Peter Beck a été nommé, en juillet de cette année, Professeur Titulaire du Département de Physique de l'Université de Fribourg.

Ce chercheur passionné travaille depuis de nombreuses années dans le domaine de la physique des particules, notamment au CERN où il est associé scientifique depuis la

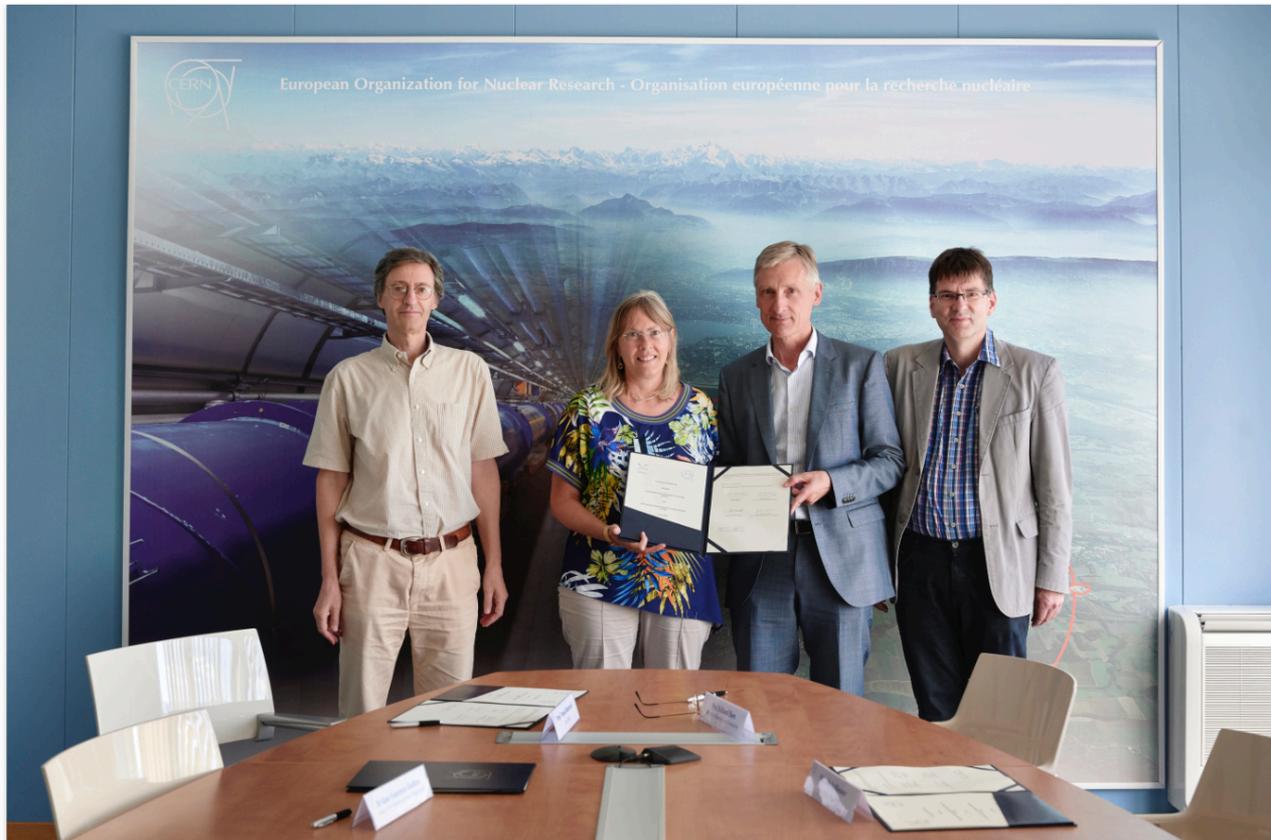
# Fermilab and University of Bern join forces for neutrino physics



On Sept. 19, the University of Bern in Switzerland and Fermilab signed an agreement to collaborate on neutrino experiments to be carried out at the laboratory. Seated, from left: Fermilab Director Nigel Lockyer, University of Bern Rector Christian Leumann, University of Bern scientist and group leader Antonio Ereditato. Standing, from left: Fermilab Chief of Staff Hema Ramamoorthi, Fermilab Office of Partnerships and Technology Transfer Manager Cheri Schmidt, Fermilab Neutrino Division Head Steve Brice, University of Bern Laboratory for High Energy Physics Deputy Director Michele Weber, Fermilab Deputy Director of Administration Tim Meyer, Department of Energy Federal LBNF/DUNE Project Director Pepin Carolan, Department of Energy Office of Associate Director of Science for High Energy Physics Director Jim Siegrist. Photo: Reidar Hahn, Fermilab

# A new centre for astroparticle physics theory

## On 10 July, CERN and APPEC founded **EuCAPT**, a research centre for astroparticle physics theory



From left to right: Gian Giudice, head of CERN's Theory department, Teresa Montaruli, Chair of APPEC, Eckhard Elsen, CERN Director for Research and Computing, and Job de Kleuver, APPEC Secretary-General. (Image: CERN)

HP Beck: IPPOG report at the recent session  
of Council on 27 September.



IPPOG Collaboration at its last meeting  
that took place at GSI in Darmstadt,  
Germany this Spring 2019.

# Agenda item 10: Status of new professorships

## **New professorships at CHIPP institutes**

- report from each institute:
  - ▶ Basel
  - ▶ Bern
  - ▶ Geneva
  - ▶ Zurich
  - ▶ EPFL
  - ▶ ETHZ
  - ▶ PSI

# National Media Visit at CERN

## 23-24 January 2020

- **UniGe Marco Cattaneo**
- **SCNAT Andreas Jordi**
- **NZZ Christian Speicher**
- **Sonntagzeitung Joachim Laukenmann**
- **Free lance Barbara Gallavotti**
- **CHIPP Benedikt Vogel**
- **SNF Christophe Giovannini**
- **PSI Andreas Trabesinger**
- **Swiss association of Science journalists: Diana Hornung**
- **SNF (Horizon) ?**
- **Einstein-Redaction (RTS) ?**
- **Wissenschaft-Redaction ?**
- **Bilan ?**

# Next CHIPP meetings

Please book the dates in your diary!

PSI 2019 → 21-25 October 2019

+ Satellite Workshop 25-26 October 2019

National Media Visit → 23-24 January 2020

RoadMap Workshop 2020 → 25-26 June 2020

Board/Plenary 2020 with SPS → 29 June – 3 July 2020

Zuoz PhD school → 9 – 15 August 2020

MLHEP 2020 PhD school → 9 – 15 August 2020

October 21 - 25, 2019

Physics of **Fundamental Symmetries** and Interactions at the Paul Scherrer Institute

Fundamental physics and precision experiments with muons, pions, kaons, neutrons, antiprotons and other particles

- Low energy precision tests of the Standard Model
- Searches for permanent electric dipole moments
- Exotic atoms and molecules
- Searches for symmetry violation and new forces
- Precision measurements of fundamental constants
- Advanced muon and ultracold neutron sources

supported by



**Organizing Committee:**

Klaus Kirch  
Bernhard Lauss  
Stefan Ritt  
Adrian Signer

Follows PSI2013 and PSI2016, expect 150 participants, all talks plenary, poster session

+ **Satellite Workshop on Oct. 25-26, 2019**

Synergies between muon capture and neutrino scattering - axial proton radius and neutrino-nucleon scattering *program coordinators: Peter Kammel, Federico Sanchez*

# Events:



COMMUNE DE  
CHÂTEAU-D'OEX



PAYS D'ENHAUT  
CHÂTEAU D'OEX - ROUGEVOY - BOUVENAY



BREITLING  
1884



CHALETBAU MATTI

<https://www.espace-ballon.ch/exposition-temporaire>

# Agenda item 22: A.O.B.

- News from the community ?  
Any news or announcement to be communicated ?



## Switzerland

Switzerland was a founding member of CERN and is one of the two Host States. Switzerland has a strong tradition in particle physics: scientists in Switzerland have made important contributions to the advance of Particle Physics in general and have always maintained a strong involvement in CERN. Swiss-US physicist Felix Bloch was the first Director-General of the new Organization from 1954 until 1955.

Most Swiss universities, the two Swiss Federal Institutes of Technology in Zürich (ETHZ) and Lausanne (EPFL), and the Paul Scherrer Institute (PSI) are engaged in experimental and theoretical research in elementary particle physics. Today the emphasis is on experiments at the LHC, with a strong participation in **CMS**, **ATLAS** and **LHCb**, as well as in several non-LHC experiments.

Swiss society, science and industry benefit in a direct way from technical spin-offs and medical applications from particle physics, including imaging techniques and cancer treatment. A high-performance Tier-2 farm is set up at the Swiss National Supercomputing Centre (CSCS) in Lugano (Ticino) as part of the world-wide computing Grid, to contribute to the analysis of the huge amount of data that will be produced by the LHC experiments. This computing farm also contributes to the design of a general Grid-based e-science infrastructure in Switzerland, which will serve a multitude of scientific disciplines.

CERN contact(s): [P. Wells](#), [J. Wenniger](#)

380 CERN users - [Collaborating Institutes](#)

### Experiments

[ATLAS](#), [CMS](#), [LHCb](#), [ACE](#), [CLOUD](#), [DIRAC](#), [NA61](#),  
[nTOF](#), [OPERA](#), [GBAR](#)

### Projects

[LHC](#), [CLIC](#), [HL-LHC](#), [FCC](#)

### WLCG participation

[Tier-0](#), [Tier 2](#)

### Member States

- [Austria](#)
- [Belgium](#)
- [Bulgaria](#)
- [Czech Republic](#)
- [Denmark](#)
- [Finland](#)
- [France](#)
- [Germany](#)
- [Greece](#)
- [Hungary](#)
- [Israel](#)
- [Italy](#)
- [Netherlands](#)
- [Norway](#)
- [Poland](#)
- [Portugal](#)