

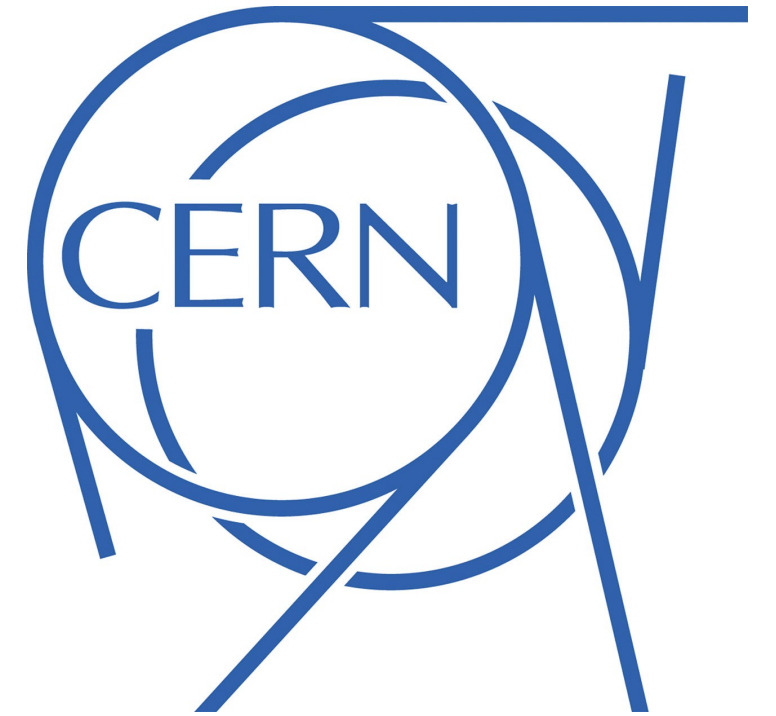
Spokespersons' Welcome

Roman Pöschl



CALICE Collaboration Meeting CERN – September/October 2019

- On behalf of the collaboration I would like to thank CERN for hosting us for this meeting
 - Second CALICE Meeting at CERN, first one in 2011
- The local organisation was ensured by Konrad Elsener and Frank Simon
- Introduction to CERN and meeting, see Lucie's talk
 - Address by CERN Research Director on Wednesday Morning 8.30h
- CERN group is member of CALICE since 2009
 - Testbeams and data analysis W-AHCAL and W-DHCAL
 - Facilitating access to CERN services such as testbeams, documentation system, Laboratories (e.g. Bonding lab)
- Thanks to the conveners for having compiled the program
- Thank you very much for coming to this CALICE Meeting



- Let me first thank

Frank Simon

for his outstanding leadership during his four years term as CALICE Spokesperson

- He made sure that CALICE is still alive and kicking
- I would like to thank the collaboration for the confidence in me testified by my election as the new Spokesperson
 - **It is my honour to serve CALICE in this position**
- For those who don't know me
 - R.P. is a researcher of CNRS France working at LAL, a laboratory of the IN2P3
 - CALICE Member since 2003
 - Mainly working on SiW ECAL
 - Served and (still serves) CALICE as Chair of the Technical Board and Chair of the Speakers Bureau

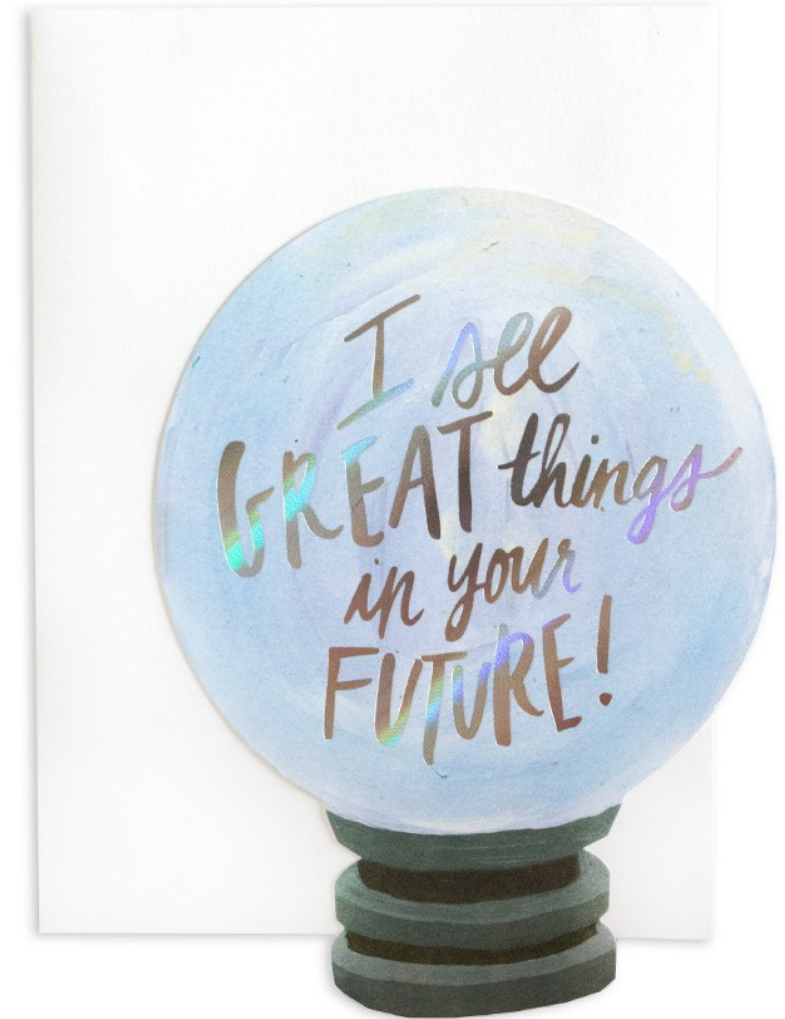
- I am very much in phase with the recommendations of the ECFA Review in November 2018
 - Bringing the main proposed technologies to a similar level in maturity
 - Mastering of timing capabilities is new challenge
 - Accompanying/consulting projects during/on the realisation of highly granular calorimeters for particle flow
 - by developing hardware that meets detector constraints
 - by providing scalable cost models
 - -> This is point that meets our competences and we have to get quickly organised on that
 - Being open to developments of highly granular calorimeters inside and (still) outside of CALICE
 - e.g. continuous powering of highly granular calorimeters
 - Analysis of the rich data set to contribute in a prominent position to the improvement of the understanding of hadronic cascades as implemented in e.g. GEANT4
- But also ...
 - Giving room to new bright ideas on granular calorimetry
 - Ensuring/enhancing the visibility of CALICE at international events, relevant R&D panels and Funding agencies
 - Helping you on carrying out cutting edge R&D within and for CALICE, which is my most prestigious task
 - Tell me where/when I can be useful

- **Progress on the different detector technologies**
 - Testbeams of ScW ECAL, SiW ECAL and AHCAL at Tohoku and DESY
- **A dense analysis session with a lot of contributions by our young talents**
 - This one of the main 'raisons d'être' of CALICE
 - On <https://twiki.cern.ch/twiki/bin/view/CALICE/CaliceTheses>
I count 17 theses but I am sure (I know) that there are more, please help to maintain this overview
 - CALICE Students received prizes and distinctions in the past
 - IEEE award (2013) for C. Soeldner on T3B
 - French-Japanese TYL/FJPPL Young Investigator Award 2019 for S. Bilokin on SiW ECAL data analysis (among others)
- **'Other applications' will show how high granularity spreads out in our field**
- **Election of new Chair of Speakers Bureau**
 - Important role for the visibility of CALICE

- ... since Utrecht
 - EPS-HEP at Ghent (1 talk, 1 poster)
 - CEPC Workshop (1 talk)
 - LP19 (2 posters)
 - TWEPP2019 (1 poster?)
- Upcoming 2019
 - IEEE 2019 at Manchester
 - LCWS2019 at Sendai
 - CHEF2019 at Kyushu
- Upcoming 2020
 - TIPP at Vancouver
 - CALOR2020 at Sussex
 - ICHEP2020 at Prague
 - ...

More on conferences including a (slightly) critical review in my Speakers Bureau Report

- Update of European Strategy of Particle Physics is in full swing
- Granada meeting revealed tendency on priority for e⁺e⁻ collider
- Four proposals for e⁺e⁻ colliders are on the table
 - Political process in Japan for ILC started/accelerated with declaration of 7th of March
 - Japanese master plan during Winter 2019/20
 - Visits of Japanese delegations to France and Germany over summer
 - Formation of working groups on accelerators following American/Japanese example
 - Scientific preparations for CEPC in China are progressing
 - CERN has two options: CLIC and FCCee
- Update of European strategy will be formulated until next Spring
 - Will our view on the future be sharpened by then?
- All projects include detector proposals with highly granular calorimeters
 - Highly granular calorimeters considered also seriously for non-e⁺e⁻ projects (hh colliders, LBNE)

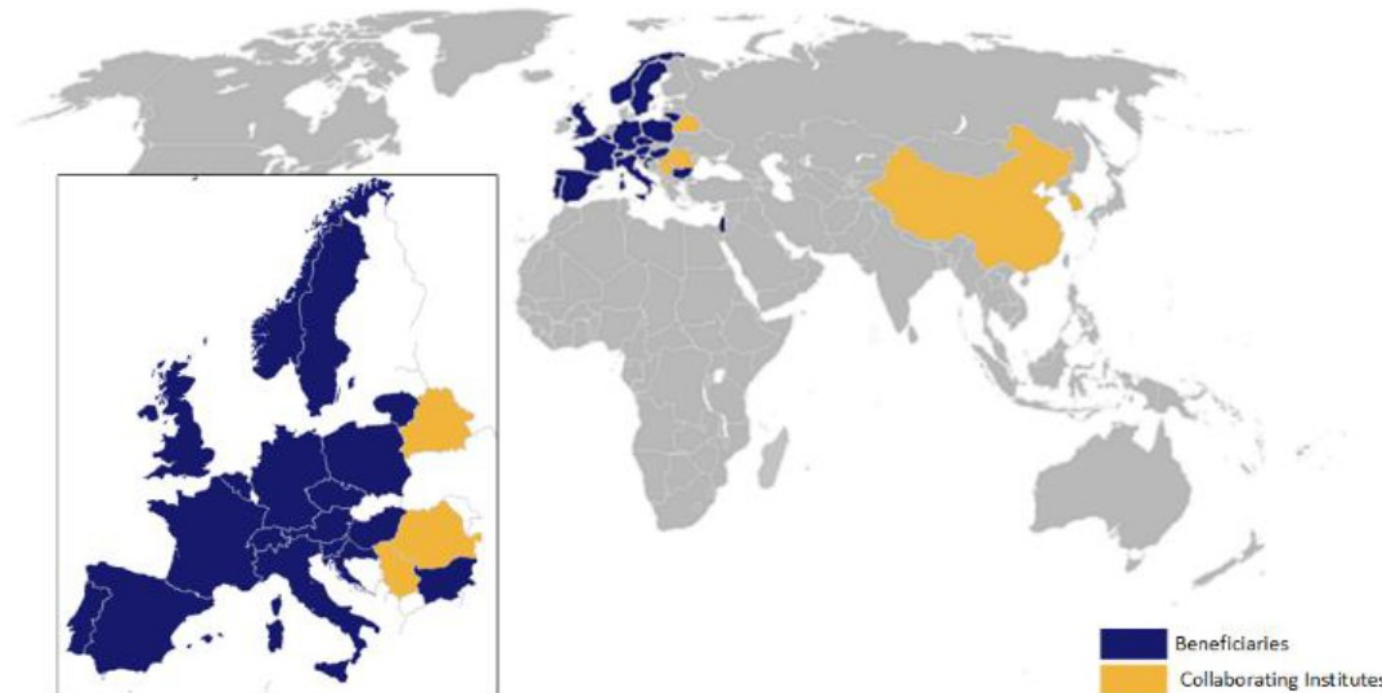


- Granada meeting saw one dedicated track on instrumentation and computing
 - F. Sefkow and L. Linssen among convenors
- (Excerpt from) concluding remarks Brigitte Vachon
- Current R&D collaborations (eg. RDx, AIDA2020, CALICE, etc.) seen to be effective models of collaboration.
 - Conduit to facilitate constructive exchange of information/expertise
 - Effective framework to share resources.
 - Coordinate work to limit duplication of efforts
 - Support wide dissemination and growth of knowledge
 - Excellent training environment
 - Provide door to industry relations
- CALICE should build up on this encouraging statement that hopefully will be reflected in the Update of the European Strategy
 - Will facilitate the quest for funding

*Slide in great parts stolen
from F. Sefkow*

Scientific coordinator: F. Sefkow

- Collaborative framework
- Infrastructure: common interest
- 19 countries
- 38 beneficiaries
 - + 20 collaborating institutes
- Coordinated by CERN
- Total budget 29.8 M€
- EC contribution 10.0 M€
- Activities:
 - Mainly: Joint Research & Networks (85%)
 - Transnational Access (13%)



<https://aida2020.web.cern.ch>

Participants bring in complementary competences
and a balanced coverage of projects.

CALICE benefited considerably from funding

AIDA2020 comes to an end in ... 2020

- ***The information is based on the Work Programme for 2018-2020, 2.July 2019***

*Slide in great parts stolen
from F. Sefkow*

- The actual Call for the Innovation Pilots will be published in autumn (~November)
- Topic: **Innovation for Detector Technologies for Accelerators**
- Expected EC funding: **up to 10 M€** , Proposal **Deadline March 17, 2020**
- Objective:
 - Support **research infrastructure networks** developing and implementing a **common strategy/roadmap** including technological development required for **improving their services** through **partnership with industry**;
 - Support **incremental innovation** and **cooperation with industry and academia** in areas such as scientific instrumentation
 - Target : **Advanced Integrated Activities (i.e. the AIDA-2020 community)**, which have reached a high level of integration and can **focus on joint research developments**, here instrumentation for particle physics at accelerators
- Proposal phase: CERN supports via EC Office, F. Sefkow proposal coordinator
 - Call for Expression of Interest until 15/7/19
 - 162 EoI submitted
 - First Open Meeting 4/9/19 at CERN
 - Workpackage formation, next meeting 23/10/19 at CERN

Eol no.	Title	technology				connections				
		silicon	Scint.	gas	other	electronics	software	beam diag.	engin.	
7	noble liquid				yes	yes				← Talk at this meeting
46	Future High-granularity silicon	yes								←
139	Ultra-fast modular silicon	yes				yes				←
148	Assembly & Q&A for complex detectors	yes								←
84	Scintillator for highly granular calorimeters		yes							←
86	Performance Studies of Scintillator Tiles		yes							←
144	readout electronics for SiPM-on-tile		yes			yes				←
91	Compact Timing Calorimeter	yes	yes							←
58	Timing for SDHCAL			yes						← CALICE
85	MPGD based SDHCAL for high radiation env.			yes						← related
135	GRPC Digitizer for Hadronic Calorimeter			yes			yes			←
35	Precision Compact ECAL	yes								
36	ultra-fast, high performance calo (crystal+SiPM)		yes							
37	Fast digitizing readout system for crystal+SiPM		yes			yes				
74	Fast crystal calorimeters for high background env.		yes							
117	Beam diagnostics in high radiation env.			yes		yes	yes	yes		
158	Compact calorimeter as luminometer		yes			yes	yes	yes		
63	Mechanical structures: e beam and Laser welding								yes	←
77	engineering methods for dual-readout								yes	← Talk at this meeting

Topic conveners: K. Krüger, R. Ferrari, R.P.

- CALICE has pioneered and is still pioneering the development of highly granular calorimeters
 - Still extremely fascinating objects, I am sure that the potential hasn't yet been exploited
 - CALICE should profit from the CMS experience
 - LHC upgrades put timing on the agenda which is now a hot topic also in CALICE
 - However, project driven development leaves little room for creativity and innovative ideas
- “Green” detectors ?
 - High performant detectors must not be power hungry
 - Need to continue with development of intelligent power management
 - Precision timing adds to the power budget, can one control it, minimise it?
 - Restrictions on greenhouse gases are a threat for future gaseous detectors
- Silicon as choice for granular calorimeters
 - **The whole field depends on one (however very reliable) vendor of e.g. Si Wafers**
 - A risk that should be understood
 - It is our duty to look at and understand alternatives
- Our combined beam tests are maybe still the best tools around to understand hadronic showers
- Your bright ideas are welcome and needed

Backup