

Report from the Speakers' Bureau

CALICE Collaboration Meeting

March 29th, 2023

François Corriveau

on behalf of the Speakers' Bureau



CALICE Speakers' Bureau

Role

Manage Publications (Analysis Notes and Papers)

Set up Editorial Boards, Indico pages and follow the review process

Participation to Conferences

Before: call for contributions, organize speakers, rehearsals, distribute slides or posters

After: review proceedings, collect documents, update web pages

Organization of Analysis Meetings every ~2-3 months if possible

Others

Composition

Jerry Blazey (NIU)

✓

Vincent Boudry (LLR)

✓

Wataru Ootani (Tokyo)

✓

François Corriveau (McGill)

✓

Chair

Frank Simon (MPP)

✓

ex-officio as IB Chair

Roman Pöschl (LAL)

✓

ex-officio as Spokesperson

meet once or twice a year

last: January 2022

next: TBD

Speakers' Bureau Webpages

<https://twiki.cern.ch/twiki/bin/view/CALICE/SpeakersBureau>

CALICE Results

Papers accepted or submitted for publication and Analysis Notes with preliminary [results](#).

● CALICE Theses

Several [theses](#) have been written using CALICE data. These should NOT be regarded as official CALICE results, but are the responsibility of the students concerned.

CALICE Internal Notes

Results shown in these [Internal Notes](#) are for internal use by the Collaboration. See [CaliceGroup](#) topic for further details.

● CALICE Conference Talks

[CALICE talks and posters](#) presented at conferences.

See Also: CALICE Posters (before 2009)

[Posters](#) presented at conferences before 2009.

● Membership of Editorial Boards

Current status of [Editorial Boards](#) for CALICE Analysis Notes and CALICE Papers.

Forthcoming Conferences

Forthcoming/recent [conferences](#) (not updated).


up to date




up to date

up to date

Theses

<https://twiki.cern.ch/twiki/bin/view/CALICE/CaliceTheses>








TWiki >  CALICE Web > SpeakersBureau > CaliceTheses (2023-03-23, FrancoisCorriveau)

 Edit  Attach  PDF

CALICE Theses

The following theses have been written using CALICE data. These should NOT be regarded as official CALICE results, are the responsibility of the students concerned but also do contains lots of information of interest!

Ph.D. Theses

- [Phi Chau](#)  Optimierung von hochauflösenden Sampling-Kalorimetern mit szintillatorbasierter [SiPM](#)-Auslese (Mainz U.; 2022)
- [Daniel Heuchel](#)  Particle Flow Studies with Highly Granular Calorimeter Data (Heidelberg U.; 2022)
- [Shubham Pandey](#)  Performance of High Granularity Calorimeter prototypes for the CMS HL-LHC upgrade in beam test experiments at CERN (IISER, Pune; 2022)
- [Olin Lyod Pinto](#)  Shower Shapes in a Highly Granular [SiPM](#)-on-Tile Analog Hadron Calorimeter (Hamburg U.; 2022)
- [Amine Elkhali](#)  Analog Hadronic Calorimeter for a Future Linear Collider (Wuppertal U.; 2020)
- [Yuan Zhenxiong](#)  A Low-Power Silicon-Photomultiplier Readout ASIC for the CALICE Analog Hadronic Calorimeter (Kirchhoff Inst. Phys.; 2020)
- [Christian Graf](#)  Towards Precision Time and Energy Measurements in Highly Granular Hadronic Calorimeters (Munich, Tech. U.; 2020)

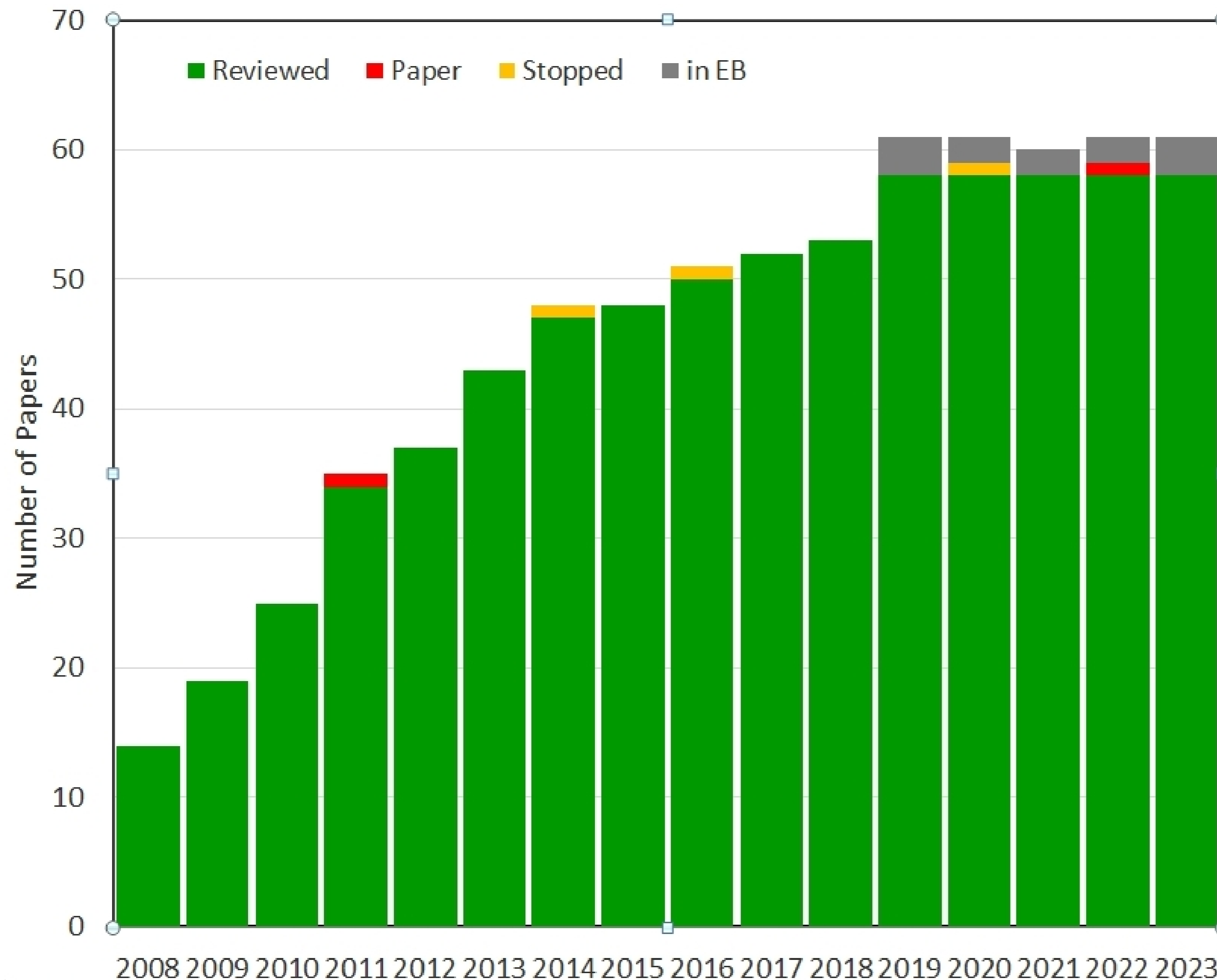
etc..

37 theses were added since last time, now there are 66, ..more?

Groups are strongly encouraged to submit CALICE-related theses here !

Analysis Notes

<https://twiki.cern.ch/twiki/bin/view/CALICE/EditorialBoards>



58 available
3 on hold/stopped
2 turned into papers
1 in EB (#61)
1 in EB+review (#63)
1 new for EB (#66)

Although nowadays one often goes directly to a publication, groups are strongly encouraged to write down notes on their current work, also as incentives for papers.

A New Analysis Note (#66)

.. has just been submitted:

Software Compensation for Highly Granular Calorimeters using Machine Learning

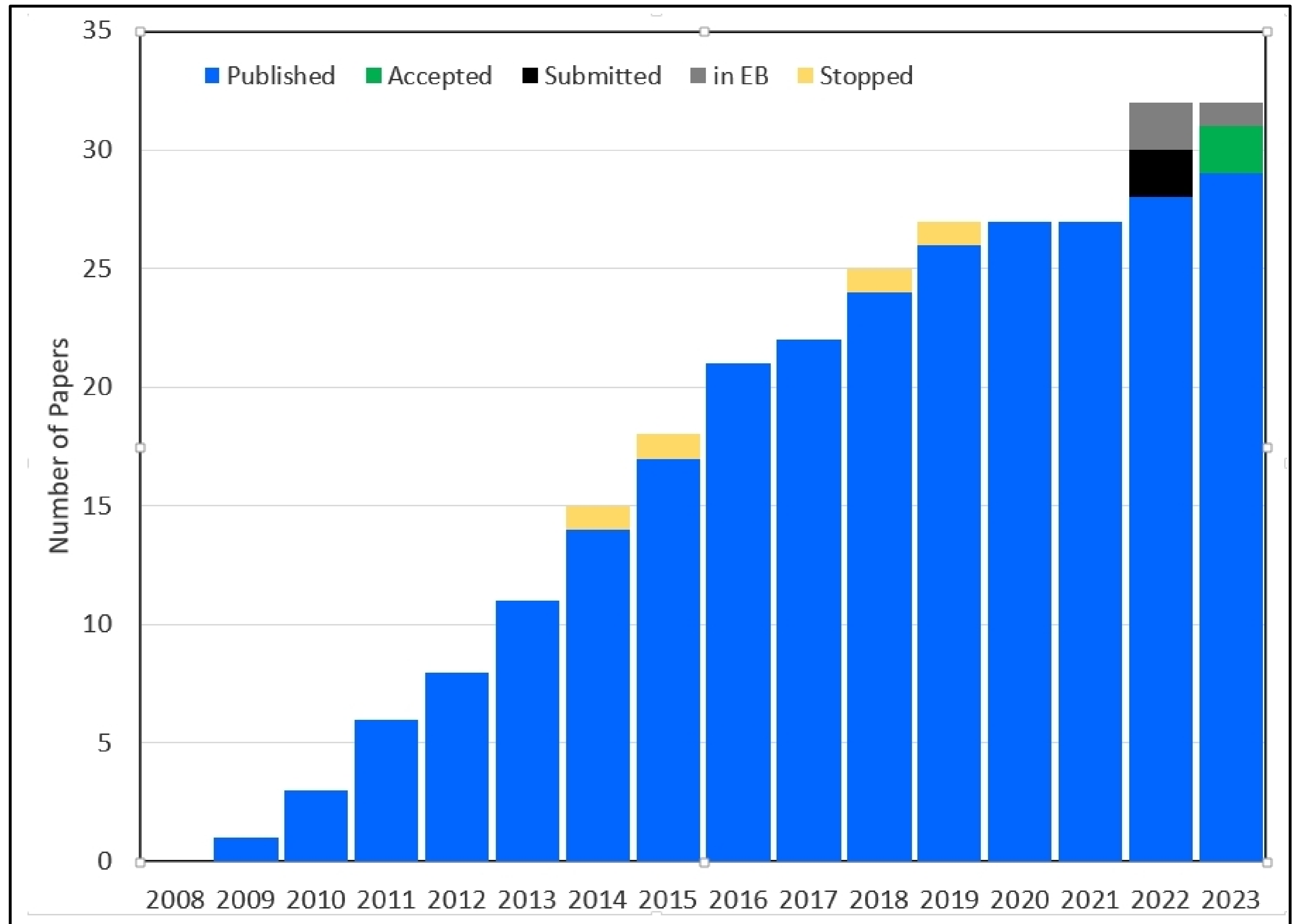
by Jack Rolph

Abstract:

In this note, a method for Software Compensation using machine learning is proposed. The method is designed to overcome biasing to the particle energy range, a common feature of many data-driven software compensation algorithms. The method obtains superior resolution than a standard control method ('local software compensation') in both simulation and 2018 June Testbeam data. It is also demonstrated to be unbiased to the training range of energies. The inclusion of timing information is found to improve the performance of the algorithm. The model is also demonstrated to learn additional energy reconstruction techniques, such as leakage correction.

An EB will be constituted soon.

Papers



Papers

<https://twiki.cern.ch/twiki/bin/view/CALICE/EditorialBoards>

29 published

4 on hold/stopped

2 submitted&accepted

1 in EB

	Board	Authors	Title	
Paper031 -> CALICE-PUB-2020-001	Fouz, Cvach, Simon	Liu, Laktineh, Yang	Particle ID in SDHCAL using BDT	Link to drafts
Paper032 -> CALICE-PUB-2022-001	Fouz, Cvach, Simon	Liu, Laktineh	Hadron Energy Reconstruction in SDHCAL using BDT	Link to drafts
Paper033 -> CALICE-PUB-2022-003	Kawagoe, Grenier, Corriveau	Krüger, Sefkow	AHCAL Technological Prototype	Link to drafts
Paper034 -> CALICE-PUB-2022-002	Chadeeva, Sicking, White	Boumediene	Description and stability of SDHCAL	Link to drafts
<i>Paper035</i>	Zerwas, Sefkow, Peitzmann	Krüger	HGCAL+AHCAL Performance	Link to drafts
<i>Paper036</i>	Takeshita, Bilki, Irls	Garcia	SDHCAL Angular Performance	Link to drafts

Status of Papers

Paper033 – **AHCAL** – *Design, Construction and Commissioning of a Technological Prototype of a Highly Granular SiPM-on-tile Scintillator-Steel Hadronic Calorimeter.*
[arXiv 2209.15327](https://arxiv.org/abs/2209.15327), submitted to and accepted by JINST (*just missing author list*)

Paper034 – **SDHCAL** – *Description and stability of a RPC-based calorimeter in electromagnetic and hadronic shower environments.*
[arXiv 2207.06291](https://arxiv.org/abs/2207.06291), published in [2022 JINST 18 P03035](https://arxiv.org/abs/2207.06291)

*Just published.
Congratulations to Djamel et al.!*

Paper035 – **AHCAL+HGICAL** – *Performance of the CMS High Granularity Calorimeter prototype to charged pion beams of 20–300 GeV/c.*
[arXiv 2211.04740](https://arxiv.org/abs/2211.04740), submitted to and accepted by JINST (*just missing author list*)

Paper036 – **SDHCAL** – *Analysis of the incident angle effect in the energy reconstruction of hadrons with the SDHCAL technological prototype.*

currently in EB

Conferences

<https://twiki.cern.ch/twiki/bin/view/CALICE/CaliceConferenceTalks>

2022 participation to 10 events with 27 contributions (there were 8 events and 33 contributions in 2021)

- [CEPC 2022](#) (Nanjing/IHEP, China, October 24-28, 2022, virtual) 2 talks
- [ECFA Workshop 2022](#) (DESY, Germany, October 5-7, 2022, in-person) 1 talk, 2 posters
- [TWEPP 2022](#) (Bergen, Norway, September 19-23, 2022, in-person) -
- [ICHEP 2022](#) (Bologna, Italy, July 6-13, 2022, in-person) 3 talks (14 abstracts submitted)
- [NDIP 2020](#) (Troyes, France, July 4-8, 2022, in-person) 1 abstract submitted
- [NewTrends 2022](#) (Kiev, Ukraine, June 26 - July 2, 2022, postponed) *postponed*
- [PM 2021](#) (Isola d'Elba, Italy, May 22-28, 2022, hybrid) 1 talk
- [CALOR 2022](#) (Sussex, UK, May 16-20, 2022, hybrid) 10 talks, 1 special paper
- [QM 2022](#) (Krakow, Poland, April 4-10, 2022, hybrid) -
- [VCI 2022](#) (Vienna, Austria, February 21-25, 2022, virtual) 1 video
- [BTTB 2022](#) (Lecce, Italy, January 31 - February 4, 2022, virtual) 2 talks
- [LP 2021](#) (Manchester, UK, January 10-14, 2022, virtual) 1 talk, 1 poster/video
- [HEP 2022](#) (IAS Program, January 13-19, 2022, virtual) 1 talk

25-26

Special Paper

"Selected Papers from the 19th International Conference on Calorimetry in Particle Physics (CALOR 2022)"

https://www.mdpi.com/journal/instruments/special_issues/calor22

The CALICE SiW ECAL Technological Prototype—Status and Outlook

by Roman Pöschl

Abstract The next generation of collider detectors will make full use of Particle Flow Algorithms, requiring high-precision tracking and full imaging calorimeters. The latter, thanks to granularity improvements by two to three orders of magnitude compared to existing devices, have been developed during the past 15 years by the CALICE collaboration and are now reaching maturity. This contribution will focus on the commissioning of a 15-layer prototype of a highly granular silicon–tungsten electromagnetic calorimeter that comprises 15,360 readout cells. The prototype was exposed in November 2021 and March 2022 to beam tests at DESY and in June 2022 to a beam test at the SPS at CERN. The test at CERN has been carried out in combination with the CALICE Analogue Hadron Calorimeter. The contribution will give a general overview of the prototype and will highlight technical developments necessary for its construction.

Conferences

<https://twiki.cern.ch/twiki/bin/view/CALICE/CaliceConferenceTalks>

2023

- [TWEPP 2023](#) (Sardinia, Italy, October 2-6, 2023) Abstract submission deadline: April 30, 2023.
- [TIPP 2023](#) (Cape Town, South Africa, September 4-8, 2023) Abstract submission deadline: April 15, 2023.
- [PSD 2023](#) (Oxford, England, September 3-8, 2023)
- [Low-x 2023](#) (Leros, Greece, September 3-8, 2023)
- [QM 2023](#) (Houston, USA, September 3-9, 2023) Abstract submission deadline: May 1, 2023.
- [EPS 2023](#) (DESY, Germany, August 21-25, 2023) Abstract submission deadline: June 2, 2023.
- [LP 2023](#) (Melbourne, Australia, July 17-21, 2023) Abstract submission deadline: March 18, 2023.
- [FCC Week 2023](#) (London, England, June 5-9, 2023) Abstract submission deadline: June 3, 2023.
- [FAST 2023](#) (Elba, Italy, May 28 - June 1, 2023) Abstract submission deadline: May 14, 2023.
- [LHCP 2023](#) (Belgrade, Serbia, May 22-26, 2023) Poster abstract submission deadline: March 20, 2023.
- [LCWS 2023](#) (SLAC, USA, May 15-19, 2023) Abstract submission deadline: March 15, 2023. → March 31, 2023
- [CHEP 2023](#) (Norfolk, England, May 8-12, 2023) Abstract submission deadline: November 28, 2022.
- [BTTB 2023](#) (DESY, Germany, April 17-21, 2023) Abstract submission deadline: March 12, 2023.
- [TREDI 2023](#) (Trendi, Italy, February 28 - March 2, 2023) Abstract submission deadline: January 30, 2023.
- [HEP 2023](#) (Valparaiso, Chile, January 1-13, 2023) Abstract submission deadline: December 14, 2022.

Outlook

slide from October 2022

Collaborative R&D is the core of CALICE.
Diffusion of results are its expression to the community.

There are many ways for members to contribute to the reach of CALICE:

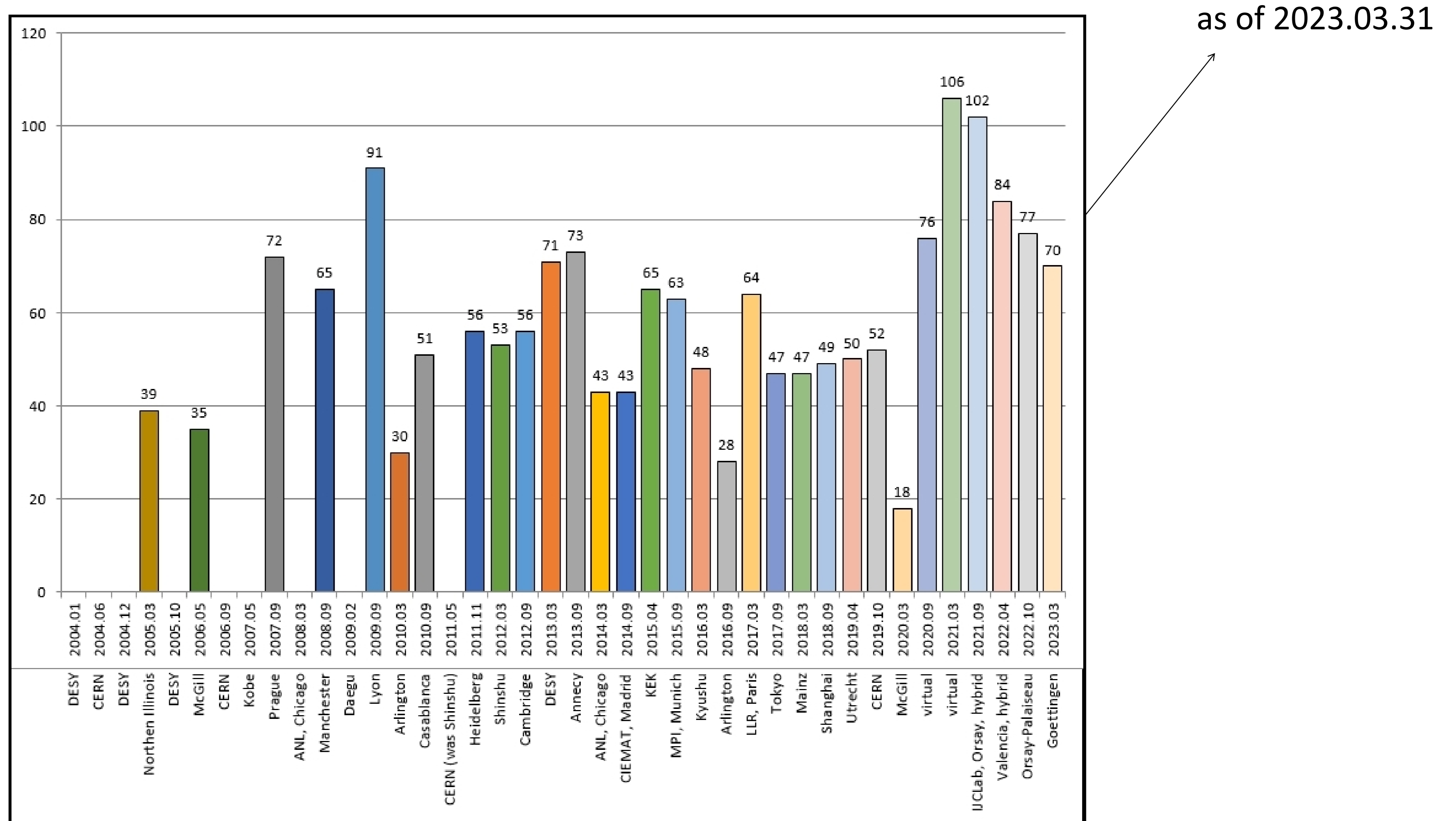
take part in technical/analysis meetings,
participate to workshops and conferences
present/discuss methods and results,
write down technical/analysis works
in the form of theses, notes and publications.



The role of the CALICE Speaker's Bureau is to facilitate.
We welcome inquiries and suggestions for improvements.

Extras

CALICE Collaboration Meetings



MC-based Papers

Three such papers by CALICE collaboration members have been recently proposed. They are MC-based, not using CALICE data and thus justifying limited authorships:

“Time assisted energy reconstruction in a highly granular hadronic calorimeter”,
C. Graf and F. Simon. <https://arxiv.org/abs/2203.01317>, published in [JINST 17 P08027](#).

“Machine-learning-based prediction of parameters of secondaries in hadronic showers using calorimetric observables”, M. Chadeeva and S. Korpachev. May 2022.
<https://arxiv.org/abs/2205.12534>

“Generation of Artificial Neutral Hadron Showers in A Highly Granular Calorimeter using Cycle-Consistent Neural Networks”, J. Rolph, E. Garutti and G. Kasieczka. A draft exists, the AHCAL geometry is used. Status?

CALICE is favorable to such initiatives and appreciates being made aware of them via the Speakers Bureau in order to resolve any potential conflict and satisfy collaboration rules.

Analysis Meetings

Analysis meetings between collaboration meetings are back on since 2020:

~4-6 presentations each time, with attendance of ~30 participants.

This is an excellent forum for exchange on current issues towards completion of analyses → publications, or special topics.

5 analysis meetings since May 2020:

2020 - May, July, December

2021 - June

2022 – February

The meeting of July 2022 had to be cancelled for lack of presentations (only one), despite reminders.

The next should take place early December 2022

<https://agenda.linearcollider.org/category/158/>

Analysis Meetings

Analysis Meeting <https://agenda.linearcollider.org/event/8526>
Wednesday May 20, 2020, 2:00 PM → 4:40 PM Europe/Zurich
Francois Corriveau (McGill University, (CA))

Analysis Meeting <https://agenda.linearcollider.org/event/8585>
Thursday Jul 30, 2020, 2:00 PM → 4:40 PM Europe/Zurich
Francois Corriveau (McGill University, (CA))

Analysis Meeting <https://agenda.linearcollider.org/event/9005>
Thursday 10 Dec 2020, 14:00 → 16:40 Europe/Zurich
Francois Corriveau (McGill University, (CA))

Description CALICE Analysis Meeting
VidyoConnect Room: CALICE_Analysis_Meeting at <https://vidyoportal.cern.ch/join/3ulNsxkRvJ> (Access code: 2006)

2:00 PM → 2:05 PM
2:05 PM → 2:20 PM
2:30 PM → 2:35 PM
2:55 PM → 2:55 PM
3:15 PM → 3:15 PM
3:35 PM → 3:35 PM
3:55 PM → 3:55 PM
4:15 PM → 4:15 PM
4:35 PM → 4:35 PM

14:00 → 14:05 Introduction 5m
Speaker: Francois Corriveau (McGill University, (CA))
20201210_calice_a...

14:05 → 14:30 PandoraPFA Studies on AHCAL 2018 Data 25m
Speakers: Daniel Heuchel (Max-Planck-Institut für Physik), Daniel Heuchel (DESY), Daniel Heuchel (CERN)
DH_pandora_calice_...

14:30 → 14:50 CALICE and GEANT4 20m
Speaker: Roman Poeschl (Université Paris-Saclay (FR))
talk101220.pdf

16:00 → 16:05 Meeting notes 5m
Speaker: Francois Corriveau
20201210_analysis...

← minutes/comments added

CALICE Analysis Meeting <https://agenda.linearcollider.org/event/9265>
Wednesday Jun 30, 2021, 2:00 PM → 5:00 PM Europe/Zurich
Francois Corriveau (McGill University, (CA))

CALICE Analysis Meeting <https://agenda.linearcollider.org/event/9553>
Thursday Feb 17, 2022, 2:00 PM → 5:00 PM Europe/Zurich
Francois Corriveau (McGill University, (CA))

Description CALICE Analysis Meeting
Date and time: February 17th, 2022 02:00 PM Zurich
Join Zoom Meeting
<https://cern.zoom.us/j/61436743417?pwd=REY5N2k4Rm9TaVNhWGVOcVBRSjZjZz09>
Meeting ID: 614 3674 3417
Passcode: 961083

2:00 PM → 2:05 PM
2:05 PM → 2:30 PM
2:30 PM → 3:00 PM
3:00 PM → 3:20 PM
3:20 PM → 3:40 PM
3:40 PM → 4:10 PM
4:10 PM → 4:30 PM
4:55 PM → 5:00 PM

2:00 PM → 2:05 PM Introduction 5m
Speaker: Francois Corriveau (McGill University, (CA))
20220217_calice_a...

2:05 PM → 2:25 PM Computer Vision Algorithms applied on AHCAL Data 20m
Speaker: Jullan Utehs
ComputerVisionAlg...

2:25 PM → 2:45 PM Study of LGAD with high timing resolution 20m
Speaker: Mami Kuhara
220217calice_04.pdf

2:45 PM → 3:05 PM Performance evaluation of Sc-ECAL prototype 20m
Speaker: Naoki Tsuji (The University of Tokyo)
CALICE_analysis_N...

3:05 PM → 3:25 PM Data quality checks for November beam test 20m
Speakers: Adrian Irlles (IFIC (CSIC/UVeG) Valencia), Adrian Irlles
20220217_CALICE...

3:25 PM → 3:40 PM LCIO Event building 15m
Speakers: Hector Garcia, Hector Garcia CADRETA (Centro de Investigaciones Energéticas Medioambientales y Teo. (ES))
LCIOEB-17-02-2022...

3:45 PM → 3:50 PM Meeting notes 5m
Notes will appear here after the meeting
Speaker: Francois Corriveau
20220217_calice_a...

<https://agenda.linearcollider.org/category/158/>

A.O.B.'s

To-do list for the Speakers' Bureau and the CALICE Management:

- Finalize the CERN **e-groups** for CALICE. Some institutes have not responded.
- Retire JISCMAIL for CALICE ? *done!*
- Update the CALICE **author list**. The last official one stored is from 2016.

Those items are highly correlated ($\rho \approx +1$).

- Re-vamp the CALICE **webpage**