



# Report from the spokesperson

Lucie Linssen

CLICdp IB meeting

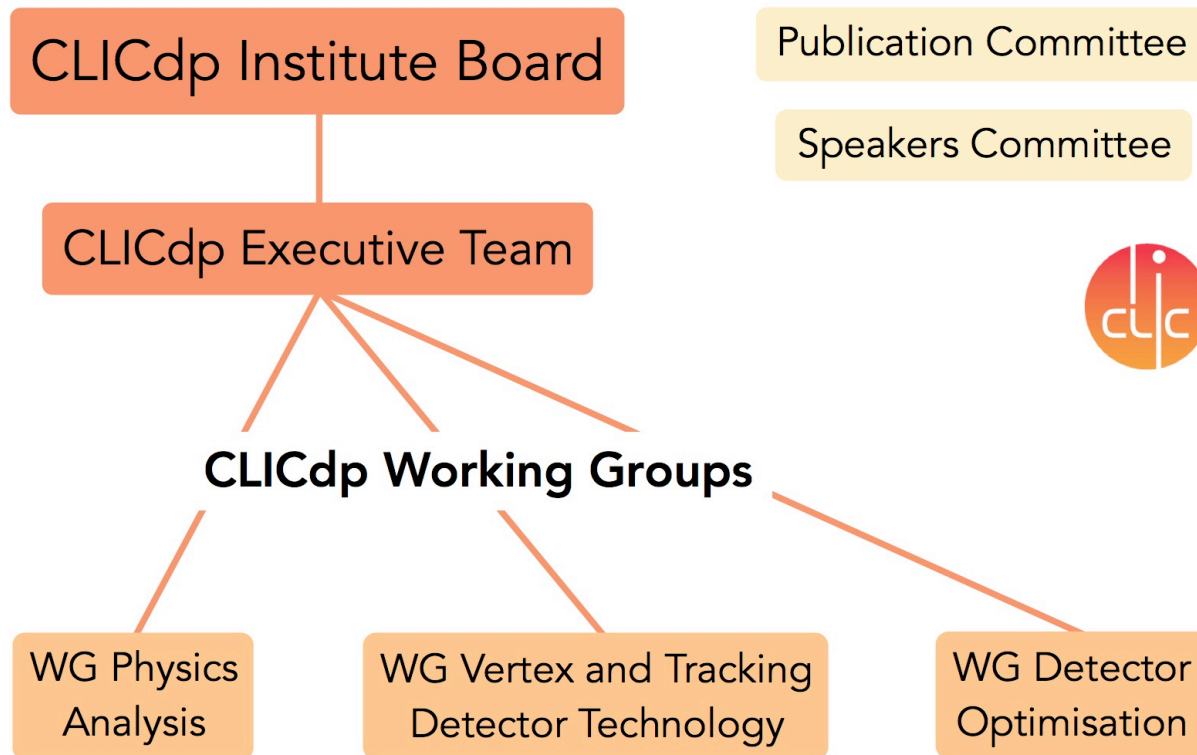
March 9<sup>th</sup> 2017

# Outline



- CLICdp organisational matters
  - Proposed adjustment of WG scope
  - Theory/phenomenology towards European Strategy Update
  - PubCom membership rotation
- CLICdp plans towards European Strategy Update
  - Timeline / documents
- For discussion: CLICdp review
- Upcoming events

# CLICdp organisation



<http://clidp.web.cern.ch/content/organisation>

# CLICdp organisation



## Proposed adjustment of mandate/scope of existing working groups:

CLICdp WG Detector Optimisation => **WG Detector Optimisation and Validation**

*Includes validation of performance for basic physics observables.*

*This is closely linked to the software validation*

## **CLICdp WG Physics analysis**

*Scope of the working group to include subjects of “detector calibration and alignment involving physics processes”.*

## Further evolution of WG organisation possible => theory involvement:

CERN Theory Department recently appointed **CLIC theory/phenomenology contact person: Andrea Wulzer (EPFL, CERN, Padova)**

A very welcome reinforcement to prepare the CLIC physics case for the next European Strategy Update (ESU).

It may give rise to some change in WG organisation => needs more time to decide

In parallel a CERN fellow (Simon Spannagel) started working on a Delphes card for CLICdet

# Publication Committee



<http://clicdp.web.cern.ch/content/publication-committee>

Current composition:

Filip Zarnecki (chair, Warsaw)

Aharon Levy (Tel Aviv)

**Rosa Simoniello (CERN)**

Rickard Ström (CERN)

*In view of CLICdp role-rotation policy and following end of Rosa's contract,  
Proposed NEW composition, as of April 2017:*

New composition:

Filip Zarnecki (chair, Warsaw)

Aharon Levy (Tel Aviv)

Rickard Ström (CERN)

**Nigel Watson (Birmingham)**

*With many thanks to Rosa for her excellent contributions to PubCom !*

# CLICdp documents

## in preparation for next European Strategy

### CLICdp reports serving as ingredients for a **CLIC summary report**:

- Updated Baseline for a Staged Compact Linear Collider (380 GeV, 1.5 TeV, 3 TeV) ✓
  - [arXiv:1608.07537](https://arxiv.org/abs/1608.07537), [CERN-2016-004](https://cds.cern.ch/record/2016004)
- Higgs Physics at the CLIC Electron-Positron Linear Collider ✓
  - [arXiv:1608.07538](https://arxiv.org/abs/1608.07538)
- The new optimised CLIC detector model CLICdet ✓✓
  - CLICdp note [CLICdp\\_Note\\_2017\\_001](#) (detector/SW validation in progress)
- An overview of CLIC top physics
  - CLIC top physics publication => complete draft before the end of 2017
- Extended BSM studies (hopefully also motivated by LHC discoveries)
  - CLIC BSM overview publication in 2018
- CLIC R&D report => with main CLIC technology demonstrators
  - Summary publication(s) in 2018
- Plan for the period ~2019-2025 in case CLIC would be supported by next strategy

# CLICdp work ahead of the ESU



The CERN DG has reminded us: **deadline for ESU documents is end 2018**

*The CLICdp plans for the ESU are ambitious!  
Time is getting short, manpower is limited.*

**In order to keep the pace, we need before the end of 2017:**

1. A complete draft of the top physics overview publication
2. A note/publication on CLICdet, including its performance for physics observables

*Furthermore we need to know in detail what our objectives for 2018 are:*

3. Detailed layout and plans of the BSM physics overview publication + much progress on the actual (benchmark) studies and their documentation
4. Possibly: detailed plans for a CLIC physics potential document
5. Detailed layout and plans for the detector R&D overview document
6. Detailed agreements with the CLIC accelerator about CLIC summary documents (either by CLICdp separately or by CLIC/CLICdp together)

For reference:

Open symposium, ESU preparation, Krakow 2012: <https://indico.cern.ch/event/175067/overview>

CLIC input for Krakow 2012: <https://indico.cern.ch/contributionDisplay.py?contribId=99&confId=175067>

Linear collider physics input for Krakow: <https://indico.cern.ch/contributionDisplay.py?contribId=69&confId=175067>

# Discussion item: CLICdp review ?



For the CLIC physics&detector CDR, a review was organised in Oct 2011, Manchester:  
<https://indico.cern.ch/event/146521/>

Complete draft of the CDR was available to the review panel >1 month in advance.  
As a result of the review comments, the CDR contents was adjusted.

## **2011 CLIC detector CDR review committee members:**

*Stefan Soldner-Rembold (chair), Philip Bambade, Giovanni Batignani, Brigitte Bloch-Devaux, Daniel Elvira, Philippe Farthouat, Paul Grannis, Marian Ivanov, Richard Nickerson, Arnulf Quadt, Rob Roser, Nobu Toge, Yifang Wang, Pippa Wells, Hitoshi Yamamoto*

## **Proposal for discussion:**

### **Set up a CLICdp review for end 2017 / early 2018**

Focus: CLIC physics and detector studies (with its links to accelerator, e.g. staging)

Mandate/purpose of the review would be:

- Feedback on our ongoing work
- Feedback on how to present CLIC at ESU and strengthen physics case for CLIC



# Next CLICdp collaboration meeting, LC workshops 2017



**CLICdp 2-day** meeting, planned for **August 29-30 2017 @ CERN**

**Would you prefer another location than CERN?**

## 2017 LC workshops

**AWLC**, June 26-30, SLAC

Currently a 2-hour CLICdp session planned on Monday 26/6

**Linear Collider workshop LCWS17**, Strasbourg, France

Proposed dates: week Oct 23 – Oct 27 or week Oct 30 - Nov 3

Questions ?  
Comments ?

Thank you !

extra slides

# Programme of CLIC CDR review, Oct 2011



<https://indico.cern.ch/event/146521/>

	18 Oct 2011	19 Oct 2011
AM		<p>08:30 Review Committee Meeting ()</p> <p>09:30 Magnet system and detector movements - Hubert Gerwig (CERN) () Slides</p> <p>10:05 Forward region and polarisation - Konrad Elsener (CERN) () Slides</p> <p>10:35 --- Coffee Break ---</p> <p>10:55 Calorimeters (ECAL, HCAL technology + performance) - Felix Sefkow (Deutsches Elektronen-Synchrotron (DE)) () Slides</p> <p>11:30 CLIC_ILD tracking (technology + performance) - Jan Timmermans (NIKHEF) () Slides</p>
PM	<p>12:00 --- Lunch ---</p> <p>13:30 Introduction to the review - Stefan Soldner-Rembold (University of Manchester) () Slides</p> <p>13:50 Introduction to the context and history of project - Harry Weerts (High Energy Physics Division-Argonne National Laboratory) () Slides</p> <p>14:15 CLIC physics potential - James Wells (CERN) () Slides</p> <p>15:00 Introduction to the CLIC accelerator and to the sources of beam-induced background - Daniel Schulte (CERN) () Slides</p> <p>15:35 Detector performance requirements and detector concepts - Jean-Jacques Blaising (Centre National de la Recherche Scientifique (FR)) () Slides</p> <p>16:15 --- Coffee break ---</p> <p>16:45 Impact of background on the detector - Andre Sailer (Humboldt-Universitaet zu Berlin (DE)) () Slides</p> <p>17:20 Suppression of beam-induced background and influence on the physics results - Dr. Mark Thomson (University of Cambridge) () Slides</p> <p>18:00 Vertex detector at CLIC - Dominik Dannheim (CERN) () Slides</p>	<p>12:00 CLIC_SiD tracking (technology + performance) - Marcel Stanitzki (Deutsches Elektronen-Synchrotron (DE)) () Slides</p> <p>12:25 --- Lunch ---</p> <p>13:30 Electronics - Alex Kluge (CERN) () Slides</p> <p>14:00 Particle flow performance at CLIC - John Marshall (University of Cambridge) () Slides</p> <p>14:25 Physics observables and flavour tagging - Jan Fridolf Strube (CERN) () Slides</p> <p>14:55 Results and implications of benchmark studies - Dr. Frank Simon (Max-Planck-Institut fuer Physik) () Slides</p> <p>15:45 --- Coffee Break ---</p> <p>16:00 What are the next steps? - Lucie Linssen (CERN) () Slides</p>

+ 3<sup>rd</sup> day for reviewer discussions

# CLIC accelerator review, March 2016



<http://indico.cern.ch/event/449601/>

- Florian Sonnemann
 Frederick Bordry
 Jose Miguel Jimenez
 Maurizio Vretenar
 Oliver Bruning  
 Paul Collier
 Roberto Losito
 Roberto Saban
 Rudiger Schmidt

		1 Mar 2016			
AM	09:00	Introduction and mandate - <b>Maurizio Vretenar (CERN)</b> (503-1-001 - Council Chamber)	CLIC_Review_-_Autumn_2015_V4.docx	CLIC_Review_-_Autumn_2015_V4.pdf	
	09:10	Project overview: structure and status, objectives for 2018, long-term - <b>Steinar Stapnes (CERN)</b> <b>Philip Burrows (Oxford University)</b> (503-1-001 - Council Chamber)		intro.pdf  intro.pptx	
	09:40	Status and plans of X-band test-stands and structures - <b>Walter Wuensch (CERN)</b> (503-1-001 - Council Chamber)	rf for review 2016-3-1.pdf	rf for review 2016-3-1.pptx	
	10:10	Status and plans of klystron developments, including high-efficiency - <b>Igor Syrathev (CERN)</b> (503-1-001 - Council Chamber)	CLIC_R_2016_2.pdf	CLIC_R_2016_2.pptx	
	10:40	--- Coffee Break ---			
	11:00	Status and plans of drive beam components design and test - <b>Steffen Doebert (CERN)</b> (503-1-001 - Council Chamber)	CLICreviewDrive BeamFinal.pdf	CLICreviewDrive BeamFinal.pptx	
	11:30	Completion of CTF3 program in 2016 and further CLIC experimental verification activities - <b>Roberto Corsini (CERN)</b> (503-1-001 - Council Chamber)	CLIC_review_2016_RC.pdf	CLIC_review_2016_RC.pptx	
PM	12:00	CLIC performance, ongoing verifications and remaining concerns - <b>Daniel Schulte (CERN)</b> (503-1-001 - Council Chamber)	CLIC_review-PD2.pptx	CLIC_review-PD.pptx	
	12:30	--- Lunch ---			
	13:30	Status and plans for CLIC advanced technical components - <b>Hermann Schmickler (CERN)</b> (503-1-001 - Council Chamber)	CLICreviewTD.pdf	CLICreviewTD.pptx	
	14:00	Status and plans of the module development programme - <b>Steffen Doebert (CERN)</b> (503-1-001 - Council Chamber)	CLICreviewModulesFinal.pdf	CLICreviewModulesFinal.pptx	
	14:30	Proposal for the future operation of the CALIFES linac - <b>Erik Adli (University of Oslo (NO))</b> (503-1-001 - Council Chamber)	20160301_CALIFES_proposal.pdf	20160301_CALIFES_proposal.pptx	
	15:00	CLIC resource plans until 2018 - <b>Steinar Stapnes (CERN)</b> <b>Hermann Schmickler (CERN)</b> (503-1-001 - Council Chamber)	resources.pdf	resources.pptx	
	15:15	--- Coffee and questions time ---			
	15:45	Closed session (Reviewers only) (503-1-001 - Council Chamber)			



## Composition:

chair (1), physics/experiments/detectors (5), machines (4), magnets, rf (3), technologies (2), civil engineering & technical infrastructure, cryogenics (2)

<b>Chair</b>	
Guenther Dissertori (ETH Zurich)	CH
<b>Physics &amp; Experiments (5 members)</b>	
Marcella Diemoz (INFN)	IT
Victor Egorychev (ITEP)	RU
Gregor Herten (U. Freiburg )	GE
Andrew Parker (U. Cambridge)	UK
Chris Quigg (FNAL)	US
<b>Machines (4 members)</b>	
Ralph Assmann (DESY)	GE
Caterina Biscari (ALBA/CELLS)	ES
Wolfram Fischer (BNL)	US
Vladimir Shiltsev (FNAL)	US
<b>Magnets, RF (3 members)</b>	
Joe Minervini (MIT)	US
Alban Mosnier (CEA)	FR
Akira Yamamoto (KEK)	JP
<b>Technologies (2 members)</b>	
Marc Ross (SLAC)	US
Mike Seidel (PSI)	CH
<b>Civil Engineering, Technical Infrastructure, Cryogenics (2 members)</b>	
Philippe Lebrun (JUAS)	FR
Tim Watson (ITER)	ITER

**At the Berlin FCC week the FCC Advisory Committee will review our progress for the first time, so it will also be helpful for the process to present the material in a structure according to our CDR.**

*Slide taken from Werner Riegler*

## Regional coverage

CH	ES	FR	GE	IT	ITER	JP	RU	UK	US	Total
2	1	2	2	1	1	1	1	1	5	17

Lucie Linsen, CLCdp, IB-meeting, March 9th 2017

Exploring ambitious possibilities of:

**Initial 380 GeV CLIC collider + extension to  $\gg 3$  TeV using new technologies**

Explored in a series of meetings, mostly accelerator experts + Philipp Roloff

<https://indico.cern.ch/event/607729/>

(open meetings, see mandate attached there)

Understanding such possibilities may allow to adapt CLIC design to future options.

A main concern:

Difficult to accelerate positrons with plasma acceleration techniques

**Sample of related questions for the physics:**

**What about?**

- Is a photon (1 TeV) – proton (LHC) collider?
- Photon – photon collider at 2.4 TeV ?
- Asymmetric electron – positron collisions ?
- .....