



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.

LER2024 Close-out

9th Low Emittance Rings' workshop,
CERN 13-16/02/2024
Yannis Papaphilippou, CERN

iFAST



Announcements

I.FAST Workshop 2024 on Bunch-by-Bunch Feedback Systems and Related Beam Dynamics Joint organization by SOLEIL and KIT

3-6 March 2024
KIT
Europe/Berlin timezone

Overview
Scientific Programme
Timetable
Contribution List
Registration
Participant List
Accommodation
Venue
Workshop Organizing Committee
Contact
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Bunch-by-bunch feedback systems have become essential components of high-energy particle accelerators, particularly for ultra-low emittance rings. These systems have been widely used in accelerator facilities to ensure beam quality and to apply them to extensions such as beam diagnostics or manipulation. Bunch-by-bunch feedback systems include various hardware components and related technologies, ranging from fast digital signal processing to high power radiofrequency devices. The workshop aims to discuss a wide range of topics related to bunch-by-bunch feedback systems including new ideas and technologies, with the emphasis on exchanging information and sharing knowledge to engage in global networking in this scientific field. New ideas and technologies for the feedback systems and related beam dynamics in the future accelerators come into view of the workshop.

The workshop is directly followed by the I.FAST workshop on Injectors for Storage Ring Based Light Sources, held on the 7-8 March 2024 at KIT (<https://indico.scc.kit.edu/event/3948/>).

Workshop:

3 – 5 March 2024 at KIT North Campus, Karlsruhe

Joint Experimental Campaign:

5 – 6 March 2024

with the KARA 2.5 GeV electron storage ring

**! Registration deadline !
20. February 2024**

<https://indico.scc.kit.edu/event/3742/>



Announcements

I.FAST Workshop 2024 on Injectors for Storage Ring Based Light Sources

Joint organization by PSI, SOLEIL and KIT

6-8 March 2024
KIT
Europe/Berlin timezone

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In storage ring based light sources with ultra-low emittance beams, not only high brilliance but also correspondingly high beam stability is required. In order to guarantee the necessary charge and position stability at extraction the injectors have to meet high demands in delivering beams that allow high injection efficiency without disturbing the stored beam. To this end it is essential to look at injectors from both a technological and beam physics point of view.

The workshop aims to provide an opportunity to exchange information and knowledge on injectors in the context of realizing ultra-low emittance rings with sufficient beam quality and stability. It is also meant as a platform for enhancing the networking between facilities involved in accelerator science and technology worldwide, exploiting synergies among various scientific fields.

Workshop:

6 – 8 March 2024 at KIT North Campus, Karlsruhe

***The workshop directly follows the bunch-by-bunch feedback system workshop**

**! Registration deadline !
20. February 2024**

**We look forward to seeing you
in Karlsruhe!**



<https://indico.scc.kit.edu/event/3948/>

Y. Papaphilippou – LER 2024

~15 years of Low Emittance Rings Workshops

- **1th Low Emittance Rings Workshop**, 12-15 January 2010 **CERN** – participants 70
<https://ler2010.web.cern.ch/>
- **2th Low Emittance Rings Workshop**, 3-5 October 2011 **Heraklion, Crete**
<https://lowering2011.web.cern.ch/> – participants 80
- **3th Low Emittance Rings Workshop** 8-10 July 2013 **Oxford University**
<https://indico.cern.ch/event/247069/overview> (**EuCARD-2**) – 80 participants
- **4th Low Emittance Rings Workshop**, 17-19 September 2014, **INFN-LNF Frascati**
<https://agenda.infn.it/event/7766/> (**EuCARD-2**) – participants 70
- **5th Low Emittance Rings Workshop**, 15-17 September 2015 **ESRF, Grenoble**
<https://indico.cern.ch/event/395487/overview> (**EuCARD-2**) – 70 participants
- **6th Low Emittance Rings Workshop**, 26-28 October 2016 • **Synchrotron SOLEIL**
<https://www.synchrotron-soleil.fr/en/events/low-emittance-rings-workshop-2016> (**EuCARD-2**)
- **7th LER Workshop**, 15-17 January 2018 **CERN** (**ARIES**)
<https://indico.cern.ch/event/671745/> - 80 participants
- **8th LER Workshop** 26-30 October 2020 **INFN-LNF Frascati (held remotely)** (**ARIES**)
<https://agenda.infn.it/event/20813/overview> – 160 participants
- **9th LER Workshop** 13-16 February 2024 **CERN** (**I.FAST**)
<https://indico.cern.ch/event/1326603/> - 100 participants

~15 years of Low Emittance Rings Workshops

Mission of the **network** and **workshops**

Fostering networking activities, exchange of ideas and staff in the accelerator community involved in design, construction and operation of ultra-low emittance rings

Including **emerging topics** (Energy efficiency, sustainability, ML, AI)
(light sources, HEP: damping rings and e+/e- colliders)

via

General Workshops

Topical workshops

Prototype design and construction

Student support (and student prizes)

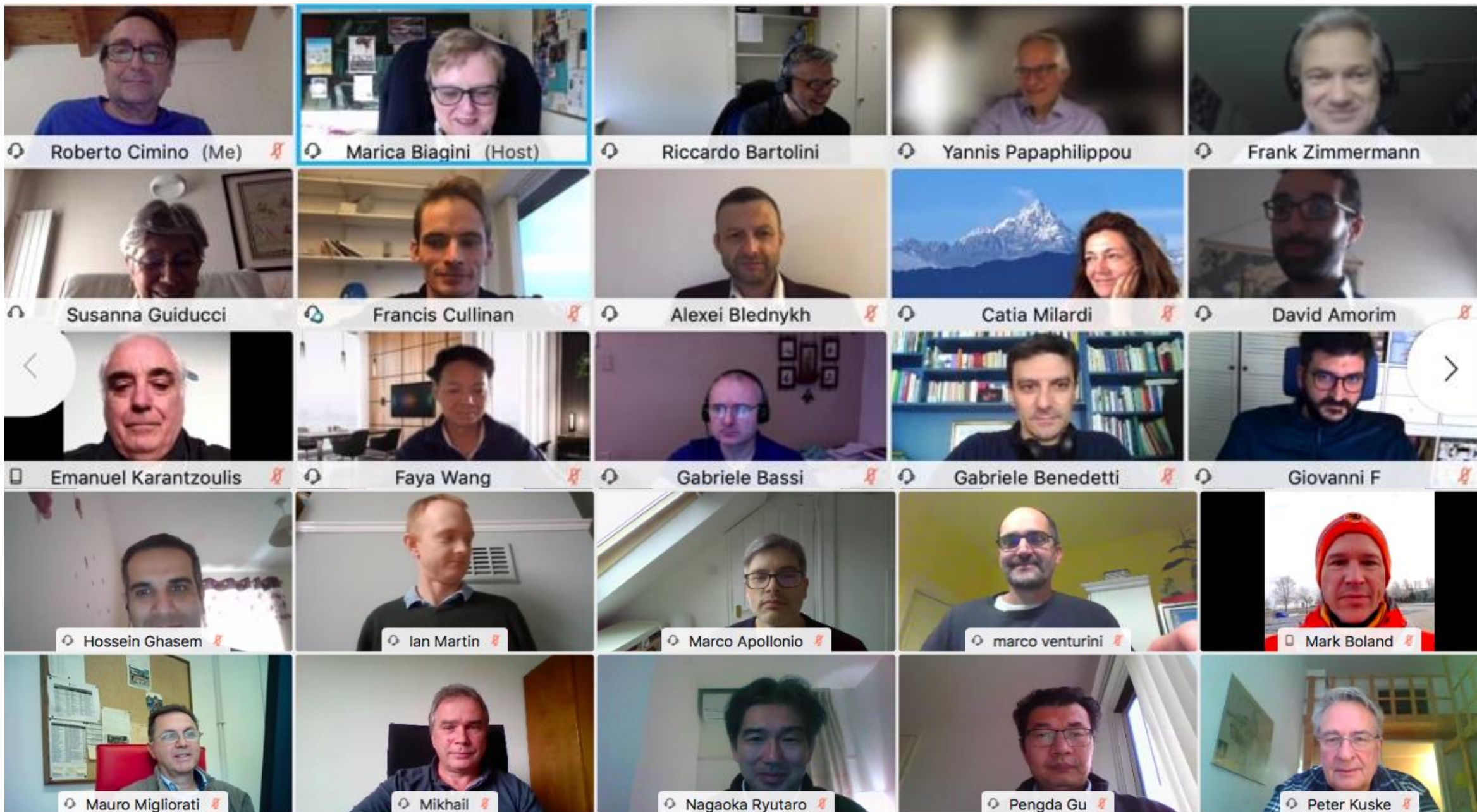
Supporting staff for **joint experiments**

engagement with **industrial partners**

LER 2010-2018

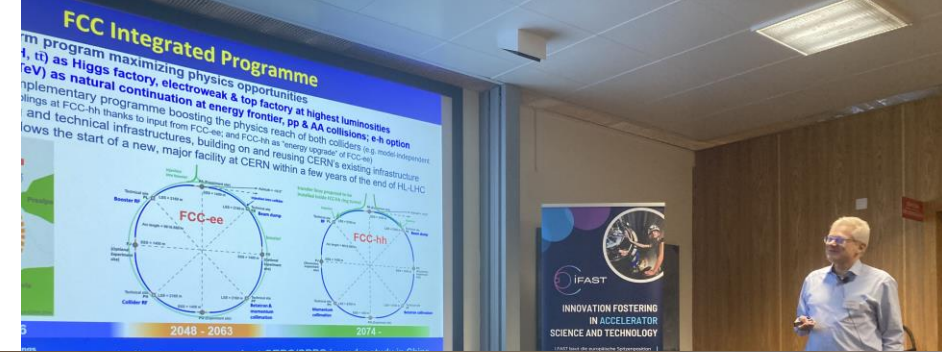


LER 2020

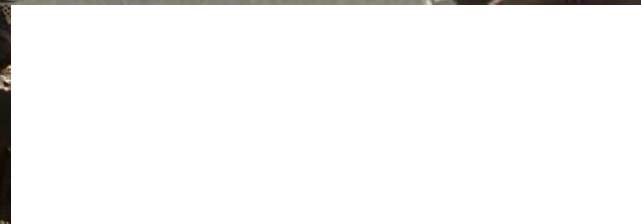




Mark Boland's dog



LER 2024



Thanks

- To **Maurizio Vretennar** for leadership of EU projects and in particular supporting the Low Emittance Rings Community
- To **Riccardo Bartolini** (WP7 coordinator) and **Akira Mochihashi** (WP7.2 Task leader) for helping in the organisation of the workshop
- To the **scientific program committee** for shaping an **excellent program**
- To the **chairpersons, speakers** and all of you for **participating**

- Masamitsu Aiba, PSI
- Ake Andersson, MAXIV
- Riccardo Bartolini, DESY
- Mike Borland, ANL
- Marica Biagini, INFN-LNF
- Pedro Fernandes Tavares, MAXIV
- Raffaella Geometrante, KYMA
- Toshihiko Hiraiwa, SPring-8
- Emanuel Karantzoulis, ELETTRA
- Gael Le Bec, ESRF
- Akira Mochihashi, KIT
- Ryutaro Nagaoka, SOLEIL
- Katsunobu Oide, KEK
- Yannis Papaphilippou, CERN
- Francis Perez, CELLS
- Günther Rehm, HZB
- Jean-Luc Revol, ESRF
- Andrea Santamaria, KIT
- Volker Schlott, PSI
- Mike Seidel, PSI
- Ben Shepherd, STFC
- Victor Smalyuk, BNL
- Frank Zimmermann, CERN

Special Thanks

- To **Valerie Brunner, Stephanie Palluel** and **Saamiya Adow**
- Without them **nothing would have worked out!**



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See you in the 10th LER workshop!



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