



RD50 online Workshop – 18-20.11.2020



Welcome to the 37th RD50 Workshop

**Radiation hard semiconductor devices
for very high luminosity colliders**

CERN/Zagreb (online) - 18-20.11.2020



The RD50 Collaboration

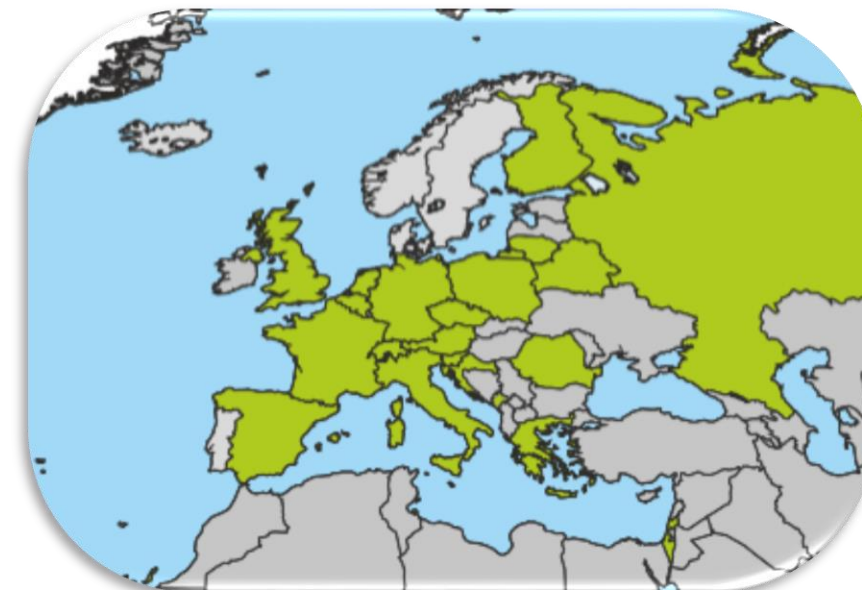


• RD50: 64 institutes and 403 members

51 European institutes

Austria (HEPHY), **Belarus** (Minsk), **Czech Republic** (Prague (3x)), **Finland** (Helsinki, Lappeenranta), **France** (Marseille, Paris, Orsay), **Germany** (Bonn, Dortmund, Freiburg, Göttingen, Hamburg (2x), Karlsruhe, Munich(2x)), **Greece** (Demokritos), **Italy** (Bari, Perugia, Pisa, Trento, Torino), **Croatia** (Zagreb), **Lithuania** (Vilnius), **Montenegro** (Montenegro), **Netherlands** (NIKHEF), **Poland** (Krakow), **Romania** (Bucharest), **Russia** (Moscow, St.Petersburg), **Slovenia** (Ljubljana), **Spain** (Barcelona(3x), Santander, Sevilla (2x), Valencia), **Switzerland** (CERN, PSI, Zurich), **United Kingdom** (Birmingham, Glasgow, Lancaster, Liverpool, Oxford, Manchester, RAL)

4 new members since November 2019



8 North-American institutes

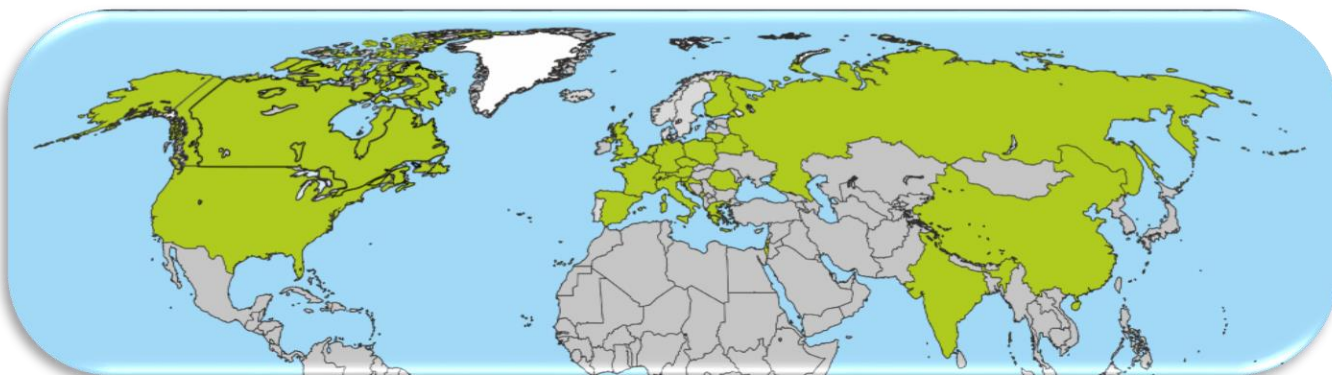
Canada (Ottawa), **USA** (BNL, Brown Uni, Fermilab, LBNL, New Mexico, Santa Cruz, Syracuse)

1 Middle East institute

Israel (Tel Aviv)

4 Asian institutes

China (Beijing-IHEP, Hefei, Jilin), **India** (Delhi)



Full member list: www.cern.ch/rd50

New members since November 2019



Number of RD50 institutes is growing

Joining November 2019

- Carleton University; NRC (National Research Council) Group, **Ottawa**, Canada

- Team leader: Thomas Koffas



Carleton
UNIVERSITY



National Research
Council Canada

- University of **Montenegro**, Faculty of Sciences and Mathematics,

- Team Leader: Gordana Lastovicka-Medin



- Department of Modern Physics and State Key Laboratory of Particle Detection and Electronics; University of Science and Technology of China (USTC); **Hefei**, P. R. China

- Team Leader: Yanwen Liu



Joining June 2020

- College of Physics, Jilin University; 2699 Qianjin, Changchun, Jilin, China

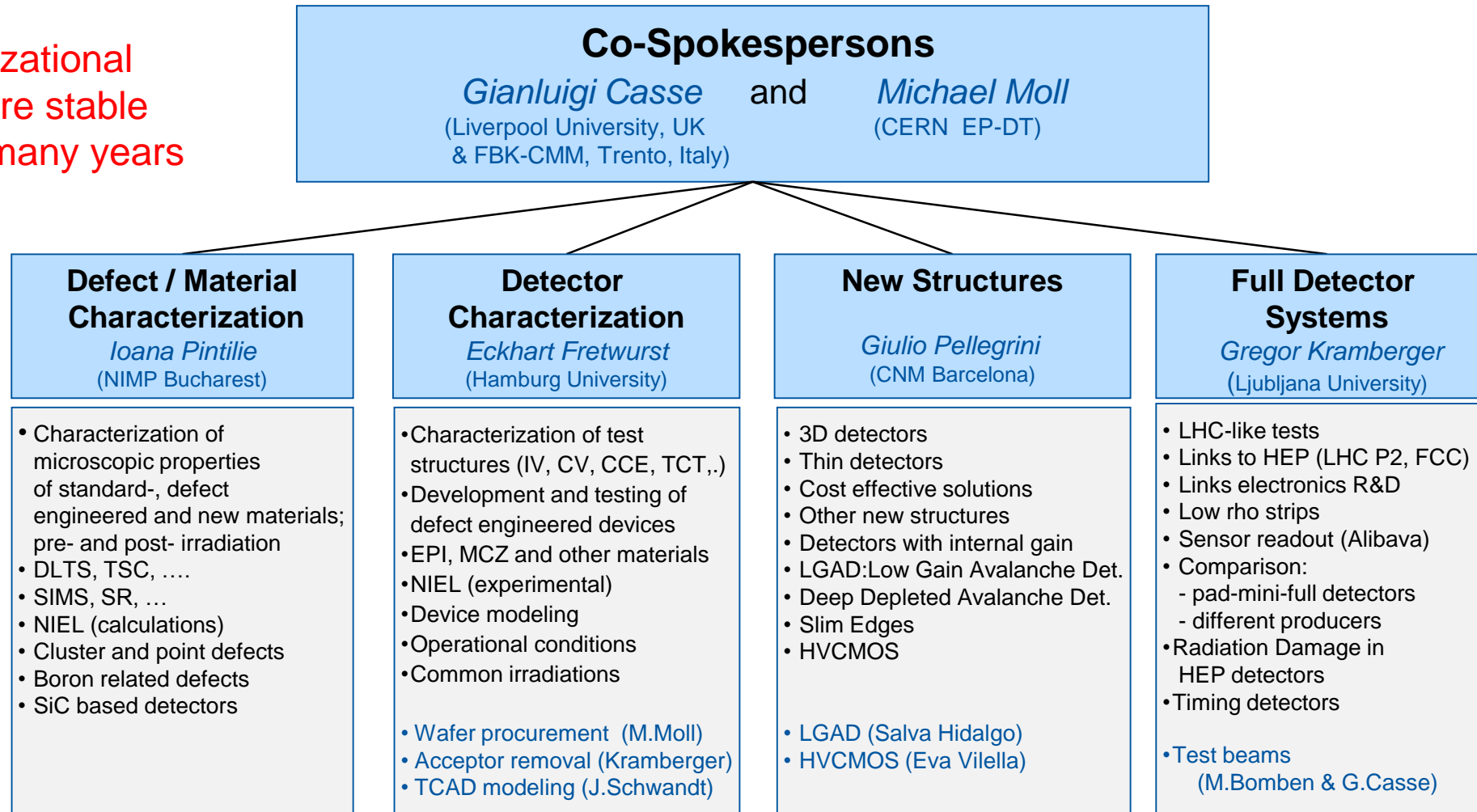
- Team Leader: Weimin Song



RD50 Organizational Structure



- Organizational structure stable since many years



Collaboration Board Chair & Deputy: G.Kramberger (Ljubljana) & J.Vaitkus (Vilnius), Conference committee: U.Parzefall (Freiburg)
 CERN contact: M.Moll (EP-DT), Secretary: V.Wedlake (EP-DT), Budget holder: M.Moll & M.Glaser (EP-DT) , EXSO: R.Costanzi (EP-DT)

RD50 – 5 Year Work Plan



- **5 year work program submitted in May 2018**
 - Approved by CERN Research Board in June 2018
- **Workplan [70 milestones]**
 - **Defect and Material Characterization [16 MS]**
 - p-type silicon [7 MS]
 - Cluster defects [4 MS]
 - Theory of defects [5 MS]
 - **Device Characterization & Device Simulation [21MS]**
 - Silicon materials [5 MS]
 - Extreme fluences [5 MS]
 - Experimental techniques [3 MS]
 - Surface damage [1 MS]
 - TCAD simulations [7 MS]
 - **New structures [21 MS]**
 - 3D sensors [6 MS] ; LGAD [4 MS]
 - CMOS [6 MS] ; New Materials [5 MS]
 - **Full Detector Systems [12 MS]**
 - LHC [7 MS]; HL-LHC [3 MS]
 - FCC [2 MS]

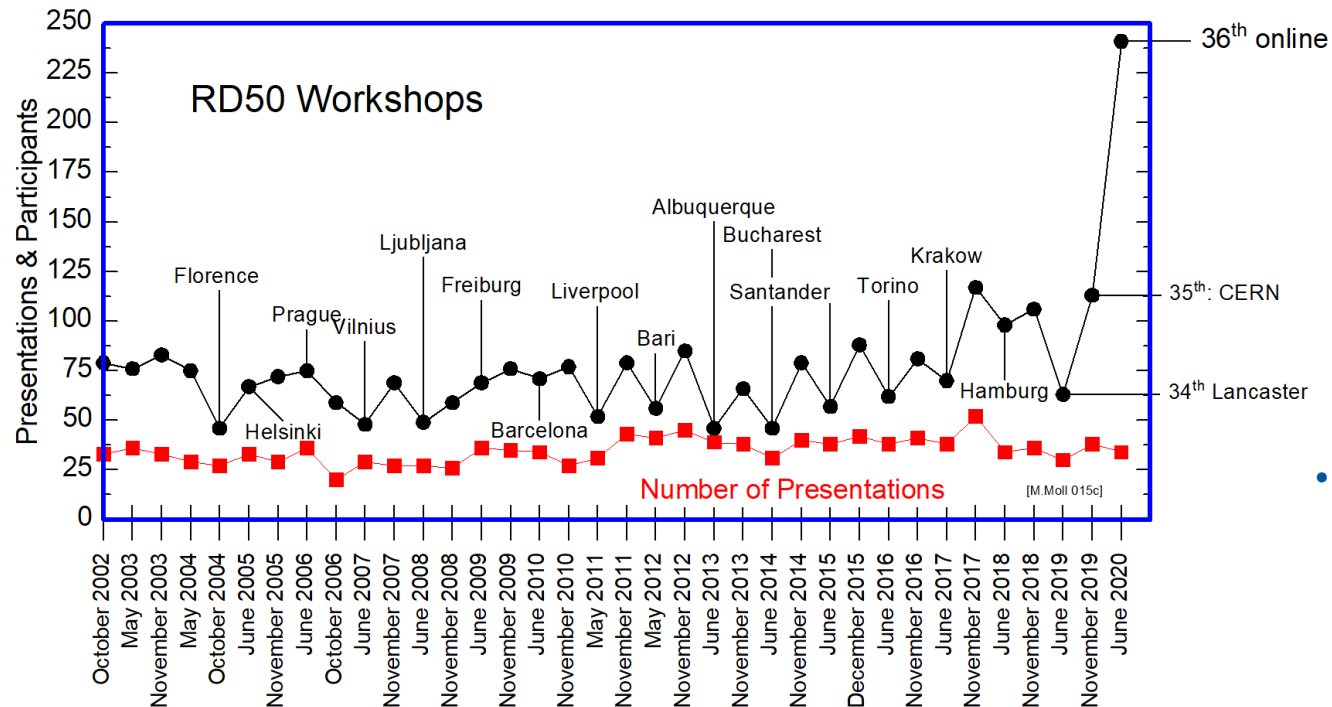


<https://cds.cern.ch/record/2320882/files/LHCC-SR-007.pdf>

RD50 Workshop statistics



- RD50 holds every year two RD50 workshops
 - Average numbers for RD50 Workshops: <35 talks> <74 participants>



- June 2020: 36th RD50 Workshop “first online workshop”

- COVID19: in-person Workshop in Zagreb was cancelled
- Online Workshop: Very high number of participants (241 participants = 60% of collaboration); 34 talks + 4 discussions
- Positive experience:
 - highest ever number of participants
 - fruitful discussions in discussion sessions
 - **but we missed the social contact and the ‘coffee meetings’**
- We learned for the future: Future workshops to be tailored as well for online participation, online discussions and online presentations.

- November 2020 again online

- 37th RD50 Workshop; Zagreb cancelled again
 - >221 participants;
 - >43 talks + 6 discussions

- Let’s hope: June 2021 in person in Valencia

Program: 37th Workshop



- Wednesday 18.11.2020
 - Defect, Material and Sensor Characterization (6 talks + discussion)
 - Detector Characterization, Simulation (7 talks + discussion)
 - *Collaboration Board (closed session)*
- Thursday 19.11.2020 [...sorry, a very tight program]
 - TCT and IBIC techniques (6 talks and a discussion)
 - LGAD – Low Gain Avalanche Detectors (14 talks + discussion)
 - *21:00-22:00 Virtual Drink (further information will be distributed)*
- Friday 20.11.2020
 - R50 beta source setups/measurements (5 talks + discussion)
 - CMOS sensors (5 talks + discussion)

...many thanks to

- the session chairs and discussion session leaders,*
- ... all speakers*

- the local organization team*
... Aneliya, Esteban,

• ... and on behalf of all RD50

- .. to Veronique Wedlake for doing such a great job as RD50 secretary*
- .. to Maurice Glaser for helping to handle the RD50 finances*
while enjoying his retirement in Brazil!

Enjoy the Workshop!

**Next RD50 Workshop
in person in Valencia.
Stay healthy and in good mood!**

