Zoommeeting Digitization Board 6.6.24, 8:30-9:15

KAT, Andreas Haungs, KFN, Bastian Märkisch, KFS, KFSI, KfB, Erik Bründermann, RDS, Tobias Buck, KHuK, Tobias Stockmanns, Sören Lange, KET, Günter Quast, FI, Matthias Hoeft, Kilian Schwarz, BDA, Jan Steinheimer, RDM, Hans-Georg Steinrück, UI, Pierre Schnizer, Tim Ruhe, KD, Judith Reindl, RPB, EuCAIF, Johan Messchendorp, ErUM-Data-Hub, Angela Warkentin, SP, Martin Erdmann

EuCAIF: European Coalition for AI in Fundamental Physics Johan Messchendorp
The EuCAIF initiative on AI in fundamental physics originates from discussions in Madrid 2022 https://indico.cern.ch/event/1040535, Bologna 2023 https://agenda.infn.it/event/34738, and had its first dedicated conference in Amsterdam 2024 https://indico.nikhef.nl/event/4875. Next: Sardinia 29.4.-2.5.25.
EuCAIF combines efforts of the European Committee for Future Accelerators ECFA, Nuclear Physics European Collaboration Committee NuPECC and Astroparticle Physics European Consortium APPEC. The preliminary EuCAIF structure comprises a **management board** (5 people), a **core group** (40 staff scientists), an **international advisory board**, and EuCAIF **members** (scientists working on AI in fundamental physics). Currently, **five working groups** drive the contents of common interests. Excerpt of Johans Slides can be found below.

The goals of the European EuCAIF appears to be very similar to our national DIG-UM/ErUM-Data initiative. Nationally, we include all research on Universe and Matter at large research infrastructures, i.e. KAT/KET/KfB/KFN/KFS/KFSI/KhuK/RDS. *The Digitization Board encourages EuCAIF to take also synchrotron, neutron, and ion research on board.*

In order to foster national-international connections, the *Digitization Board will invite Johan as EuCAIF representative to its forthcoming meetings*.

ESFRI, the European Strategy Forum on Research Infrastructures
The members of the plenary of the ESFRI Forum on 5-6 June, which includes representatives of the Research Ministries of the EU Member States, have appointed our colleague Dr. Astrid Schneidewind from FZJ as the new Chair of the Strategic Working Group (SWG) for the Physical Sciences and Engineering (PSE) domain of ESFRI, which is the most relevant ESFRI domain for the Helmholtz Research Field Matter. Astrid is appointed during the exciting times of the final preparation of the ESFRI Roadmap 2026 and will see the development of the (new) ESFRI projects, as well as the ESFRI landmarks of the PSE domain from the inside. *Congratulations to Astrid on her new role in ESFRI!*

Nature Publication without Source Code, email information by Bridget Murphy
The Nature publication on protein structure predictions "Accurate structure prediction of biomolecular interactions with AlphaFold3" has been published without source code which worries scientists worldwide. Nature's statement: https://www.nature.com/articles/d41586-024-01463-0. This topic will be on the next agenda as no one in the meeting could explain the situation.

Next events organized by/supported by the ErUM-Data-Hub
10-June-24: ErUM-Data Connect: Network Day onsite Aachen preparing the ErUM-Data call, Lunch & Dinner. All Topic Groups are invited to introduce themselves (very briefly) and their mailing lists. About 40 participants are registered. https://indico.desy.de/event/44471
17-June-24: virtual Sustainability „Pitch & Discussion Workshop", six 1-Slide Pitches: 3-5 Min/Person, ~15 participants are registered. https://indico.desy.de/event/44490
18-20-June-24: Analysis Facility Workshop, Garching, https://indico.desy.de/event/44722

Next Meetings:
Next Meeting 27-Jun-2024, 8:30-9:30 **Topic Group Chairs & Deputies**
Next Meeting 11-Jul-2024, 8:30-9:30 **Digitization Board**

EuCAIF is an European initiative for advancing the use of Artificial Intelligence (AI) in Fundamental Physics. Members are working on particle physics, astroparticle physics, nuclear physics, gravitational wave physics, cosmology, theoretical physics as well as simulation and computational infrastructure.

2019

JENAA
Joint ECFA-NuPECC-APPEC Activities

ECFA
European Committee for Future Accelerators

European Committee for
Future Accelerators

NuPECc

Nuclear Physics European
Collaboration Committee

APPEC

Astroparticle Physics
European Consortium

Objectives & Activities of EuCAIF

Objectives and Key Focus Areas
- Promote Cross-disciplinary Collaboration
- Promote the integration of AI/ML into Data & Computing Infrastructure for Current and Upcoming Experiments
- Promote the development of Novel Algorithms for Physics
- Promote and validate Benchmarks, Open Data and (upcoming) scientific AI systems like question answering machines
- Training and Education and Outreach
- Infrastructure and Resources

Concrete Activities
- Workshops and Conferences
- Initiate new Research Projects
- Data Challenges and Benchmarks
- Training Programs and Outreach activities
- Networking and Exchange
- Webpage and Online Presence

Organisation, very preliminary, unofficial yet!

EuCAIF management board
(5 people, rotating)

EuCAIF "Core group"
about 40 staff scientists, organizers of EuCAIF rotating to management board)

+ International
Advisory Board

EuCAIF members: Scientists will be able to ask for membership
(members are working on AI in fundamental physics, tasks: coming
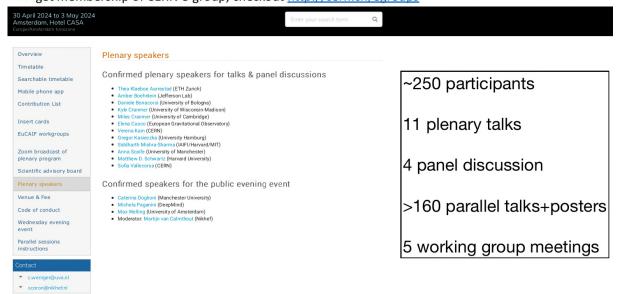to the conferences + working groups, system *to be installed*)

EuCAIF "core group"

The organizers of EuCAIF

Helena Albers (GSI/FAIR, Germany), Lucio Anderlini (INFN Firenze, Italy), Anastasios Belias (GSI/FAIR, Germany), Valerio Bertone (IRFU, CEA, Université Paris-Saclay, France), Elena Cuoco (European Gravitational Observatory and Scuola Normale Superiore, Italy), Sascha Caron (Radboud University and Nikhef, Netherlands), Stefano Carrazza (Milan University & INFN, Italy), Caterina Doglioni (University of Manchester, endorser, United Kingdom), Tommaso Dorigo (INFN Padova and University of Padova, Italy), Thomas Eberl (ECAP / FAU Erlangen-Nürnberg, Germany), Martin Erdmann (RWTH Aachen University, Germany), Stefano Forte (Milan University, Italy), Julian Garcia Pardinas (CERN), Tobias Golling (University of Geneva, Switzerland), Stephen Green (University of Nottingham, United Kingdom), Eilam Gross (Weizmann Institute, Israel), Will Handley (University of Cambridge, United Kingdom), Lukas Alexander Heinrich (CERN), Ik Siong Heng (University of Glasgow, United Kingdom), Verena Kain (CERN), Gregor Kasieczka (University of Hamburg, Germany), Andreas Ipp (TU Wien, Austria), Johan Messchendorp (GSI/FAIR, Germany), Lorenzo Moneta (CERN), Daniel Nieto (IPARCOS, Universidad Complutense de Madrid, Spain), Adrian Oeftiger (GSI/FAIR, Germany), Hiranya Peiris (University of Cambridge, United Kingdom), Maurizio Pierini (CERN), Annalisa Pillepich (MPI, Heidelberg, Germany), Tilman Plehn (Heidelberg University, Germany), David Rousseau (IJCLab, CNRS/IN2P3, U Paris-Saclay, France), Roberto Ruiz de Austri (IFIC/CSIC and University of Valencia, Spain), Veronica Sanz (Sussex&Valencia, United Kingdom & Spain), Steven Schramm (University of Geneva, Switzerland), Steffen Schumann (University of Göttingen, Germany), Nicola Serra (University of Zürich, Switzerland), Roberto Trotta (SISSA and Imperial College London, Italy & United Kingdom), Sofia Vallecorsa (CERN), Pietro Vischia (Universidad de Oviedo and ICTEA, Spain), Benjamin Wandelt (Institut d'Astrophysique de Paris, Sorbonne Université, France), Christoph Weniger (University of Amsterdam, Netherlands), Gabrijela Zaharijas (Center for Astrophysics and Cosmology (CAC), University of Nova Gorica, Slovenia)

If you like to follow the activities of EuCAIF please join the following e-group: eucaif-info@cern.ch
—> get membership of CERN e-group, checkout http://cern.ch/egroups

~250 participants

11 plenary talks

4 panel discussion

>160 parallel talks+posters

5 working group meetings

Open for other workgroups

DIG-UM and EuCAIF

• **Synergetic objectives for a successful "digital transformation":**
  - Realise community requirements/ambitions w.r.t. budgets/strategies of funding agencies (roadmaps, white papers, strong lobby).
  - Harmonise strategies and activities on several scales including institutional, national, European, and international levels with a *domain-driven* basis.
  - Provide future prospects for the next generation (talented) "digital-oriented" researchers: education, training, job perspectives, ….

• **DIG-UM and EuCAIF:**
  - Similar purpose: promote digitisation in *basic* research.
  - DIG-UM: German   KAT/KET/KfB/KFN/KFS(I)/KhuK/RDS   <—>   BMBF.
  - EuCAIF: European ECFA/NuPECC/APPEC   <—>   EU++.
  - Commonality in people, institutes, infrastructures, and topics.
  - Both consortia founded via a bottom-up approach, EuCAIF just starting.
  - *Win-win* to collaborate: share information, synchronise strategies & projects, and commonly organise workshops, schools, etc. reaching a larger community.