### Zoommeeting Digitization Board 22.6.2023, 8:30-9:10

KFN, Tobias Richter, KAT, Andreas Haungs, KFS, Bridget Murphy, KFSI, KfB, Florian Hug, RDS, KHuK, Sören Lange, KET, Christian Zeitnitz, FI, Markus Demleitner, BDA, Thomas Kuhr, Jan Steinheimer, RDM, Astrid Schneidewind, UI, , KD, Dirk Lützenkirchen-Hecht, Judith Reindl, RPB, Günter Duckeck, ErUM-Data-Hub, Angela Warkentin, Benjamin Fischer, Peter Fackeldey, SP, Martin Erdmann

### Protocol BMBF PRISMA Trialog 24.5.23, Martin

The protocol of the BMBF workshop "Sustainability in research at large-scale facilities: resource efficiency & securing the future" in the BMBF framework program ErUM presents 6 working groups where everybody (including young scientists) can join via registering at the according indico:

WG 1: Forschungsplanung und Organisation (Koordination: K. Haas)

https://indico.desy.de/e/WG1 Trialog Nachhaltigkeit

WG 2: Forschungsförderung in ErUM (Koordination: F. Trinkel)

https://indico.desy.de/e/WG2 Trialog Nachhaltigkeit

WG 3: Daten und Computing (Koordination: M. Erdmann, B. Murphy, M. Schumacher)

https://indico.desy.de/e/WG3 Trialog Nachhaltigkeit

WG 4: Technologien an FIS (Koordination: E. Bründermann)

https://indico.desy.de/e/WG4 Trialog Nachhaltigkeit

WG 5: Datenerhebung, Monitoring und Bilanzierung (Koordination: N.N.)

https://indico.desy.de/e/WG5 Trialog Nachhaltigkeit

WG 6: Forschung für Nachhaltigkeit (Koordination: J.-D. Grunwaldt)

https://indico.desy.de/e/WG6 Trialog Nachhaltigkeit

### Workshop Sustainability 30.5.-2.6.23, Martin

The workshop concept with keynotes and subgroup discussions/presentations was well accepted by the almost 40 participants. The need for action became most evident! Many rather concrete ideas were collected. The minutes of the workshop can be obtained on request. A white paper will be written by the participants on the workshop results and published in the journal Computing & Software for Big Science. An excerpt of this white paper will be drafted and handed to the above working group WG 3 Data and Computing. The participants decided to continue meetings virtually at half-years distance. A summary of the most important workshop aspects is in the following figure:

# **Resource-aware Acceleration of ErUM Sciences**

Guiding theme: A systematic resource-efficient knowledge gain will accelerate the scientific progress in the field of Universe & Matter in the short to medium term and may become a catalyst for many other fields.

#### 1. Climate Corridor

Reduce probability of climate tipping points: → ca. 10-year transition phase

- of fossil energy reduction until renewable energies are fully developed and usable.
- → Exploit transition phase for technological innovations.
- → Awareness for efficiency: knowledge gain vs. resources

#### 2. Scientists & Al

- → The bundling of human intelligence with AI tools will massively increase work efficiency in all conceivable areas.
- → Through domain knowledge and cooperation with key stakeholders, humans will continue with a decisive role in science progress.

# 3. Basic Concept FAIR

From the exploration phase to solid workflows: → Smart data requires data

- policies from the experts. → Software & algorithm
- development together with the choice of → optimal data analysis methods provide

# plentiful potential for highly efficient resource utilization.

# 4. Practical Measures

- → Development of standard metrics for sustainability. → Development and adapted operation of a computing
- center directly at a dynamic energy supplier.
- → Meaningful and efficient re-use of the heat generated by computers. → More...
- 5. Acquisition of competencies through consulting, education and training
- → Artificial intelligence: a) background knowledge on creation and functions of AI tools, b) exploitation of potentials of Al tools, c) reviewer competencies based on own domain knowledge
- → Awareness of how to use optimally suited resources for the problem at hand.
- → New career paths: in all areas of digital transformation in ErUM.

## 6. Role of Agencies&Administration

Adaptions to research funding, hardware procurement, and building construction and operations to promote sustainability, and reduce bureaucratic hurdles.

### Report Train-the-Trainer Deep Learning Advanced Concepts, Dortmund 19.-20.6.23, Angela

The Train-the-Trainer workshop in Dortmund was again were well accepted and had 50% local participants. This shows again that our concept of bringing workshops to people is most valuable. The program had been updated to most modern aspects with architectures of *normalizing flows*, *graph networks*, *autoencoders and diffusion models*. The joint workshop dinner brought participants together at an advanced level, which was immediately evident on the second day of the workshop.

### Plans for 2024, Angela

Next years programme is well under way. We continue with our "standard" schools/workshops on deep learning basic and advanced concepts, and extend the basic school with a career day in cooperation with the LHC-Office (Belle2-Office). As a new initiative we are planning for a GPU school where two concepts – one in-depth for "super" experts, and one more broad for "medium" experts – are under discussion. Everybody interested is invited to join the further planning process. There is still room for workshops of the Topic Groups in 2024. Beyond this, the ErUM-Data-Hub plans to be present at the fairs Hannover Messe and ISC Hamburg.

# Kalender 2024

Januar	Februar	März	April	Mai ISC	Juni	Juli	August	September	Oktober	November CHEP	Dezember
1 Mo Neujahr 1	1 Do	1 Fr	1 Mo Oster- montag 14	1 Mi Tag der Arbeit	1 Sa	1 Mo 27	1 Do	1 So	1 Di	1 Fr Allerheiligen	1 So 1. Advent
2 Di	2 Fr Semesterende NRW	2 Sa	2 Di Semesterbeginn	2 Do	2 So	2 Di	2 Fr	2 Mo 36	2 Mi	2 Sa	2 Mo 4
3 Mi	3 Sa	3 So	3 Mi	3 Fr	3 Mo 23	3 Mi	3 Sa	3 Di	3 Do Tag der Dt. Einheit	3 So	3 Di
4 Do	4 So	4 Mo ppg 10	4 Do	4 Sa	4 Di	4 Do	4 So	4 Mi	4 Fr	4 Mo 45	4 Mi
5 Fr	5 Mo 6	5 Di Teilchenphysik	5 Fr	5 So	5 Mi	5 Fr	5 Mo 32	5 Do	5 Sa	5 Di	5 Do
6 Sa Heilige Drei Könige	6 Di	6 Mi	6 Sa	6 Mo 19	6 Do	6 Sa	6 Di Software	6 Fr	6 So	6 Mi	6 Fr
7 So	7 Mi	7 Do	7 So	7 Di	7 Fr	7 So	7 Mi Workshop	7 Sa	7 Mo 41	7 Do	7 Sa
8 Mo 2	8 Do	8 Fr	8 Mo 15	8 Mi	8 Sa	8 Mo 28	8 Do	8 So	8 Di	8 Fr	8 So
9 Di	9 Fr	9 Sa	9 Di	9 Do Christi Himmelfahrt	9 So	9 Di	9 Fr	9 Mo 37	9 Mi	9 Sa	9 Mo 50
10 Mi	10 Sa	10 So	10 Mi	10 Fr	10 Mo 24	10 Mi	10 Sa	10 Di	10 Do	10 So	10 Di
11 Do	11 So	11 Mo ppg 11	11 Do	11 Sa	11 Di	11 Do	11 So	11 Mi	11 Fr	11 Mo 46	11 Mi
12 Fr	12 Mo Rosen- montag 7	12 Di	12 Fr	12 So Muttertag	12 Mi	12 Fr	12 Mo 33	12 Do	12 Sa	12 Di	12 Do
13 Sa	13 Di	13 Mi	13 Sa	13 Mo 20	13 Do	13 Sa	13 Di	13 Fr	13 So	13 Mi	13 Fr
14 So	14 Mi	14 Do	14 So	14 Di	14 Fr	14 So	14 Mi	14 Sa	14 Mo 42	14 Do	14 Sa
15 Mo 3	15 Do	15 Fr	15 Mo 16	15 Mi	15 Sa	15 Mo 29	15 Do	15 So	15 Di	15 Fr	15 So
16 Di	16 Fr	16 Sa	16 Di	16 Do	16 So	16 Di	16 Fr	16 Mo 38	16 Mi	16 Sa	16 Mo 51
17 Mi	17 Sa	17 So	17 Mi	17 Fr	17 Mo 25	17 Mi	17 Sa	17 Di	17 Do	17 So	17 Di
18 Do	18 So	18 Mo ppg 12	18 Do	18 Sa	18 Di	18 Do	18 So	18 Mi	18 Fr	18 Mo 47	18 Mi
19 Fr	19 Mo 8	19 Di	19 Fr	19 So Pfingsten	19 Mi	19 Fr	19 Mo 34	19 Do	19 Sa	19 Di	19 Do
20 Sa	20 Di	20 Mi	20 Sa	20 Mo Pfingst- montag 21	20 Do	20 Sa	20 Di	20 Fr	20 So	20 Mi	20 Fr
21 So	21 Mi	21 Do	21 So	21 Di School	21 Fr	21 So	21 Mi	21 Sa	21 Mo 43	21 Do	21 Sa
22 Mo 4	22 Do	22 Fr	22 Mo 17	22 Mi DL	22 Sa	22 Mo 30	22 Do	22 So	22 Di	22 Fr	22 So
23 Di	23 Fr	23 Sa	23 Di Hannover	23 Do Advanced	23 So	23 Di	23 Fr	23 Mo GPU 39	23 Mi	23 Sa	23 Mo 52
24 Mi	24 Sa	24 So	24 Mi Messe	24 Fr	24 Mo 26	24 Mi	24 Sa	24 Di School	24 Do	24 So	24 Di Heiligabend
25 Do	25 So	25 Mo 13	25 Do	25 Sa	25 Di	25 Do	25 So	25 Mi	25 Fr	25 Mo 48	25 Mi 1. Weih- nachtstag
26 Fr	26 Mo School 9	26 Di	26 Fr	26 So	26 Mi	26 Fr	26 Mo 35	26 Do	26 Sa	26 Di	26 Do 2. Weih- nachtstag
27 Sa	27 Di DL Basics	27 Mi	27 Sa	27 Mo 22	27 Do	27 Sa	27 Di	27 Fr	27 So Ende der Sommerzeit	27 Mi	27 Fr
28 So	28 Mi	28 Do	28 So	28 Di	28 Fr	28 So	28 Mi	28 Sa	28 Mo 44	28 Do	28 Sa
29 Mo 5	29 Do	29 Fr Karfreitag	29 Mo 18	29 Mi	29 Sa	29 Mo 31	29 Do	29 So	29 Di	29 Fr	29 So
30 Di		30 Sa	30 Di	30 Do Fron- leichnam	30 So	30 Di	30 Fr	30 Mo Semesterende 40	30 Mi	30 Sa	30 Mo 1
31 Mi		31 So Beginn der Sommerzeit		31 Fr		31 Mi	31 Sa		31 Do Reforma-		31 Di Silvester

## **Further matters arising**

The digitization board wants to be informed at its upcoming July meeting about the plans for workshops and other activities of the various topic groups. This will be prepared at the meeting of the topic group chairs and deputies on 6-Jul-23.