

Report from Science Advisory Committee (SAC)

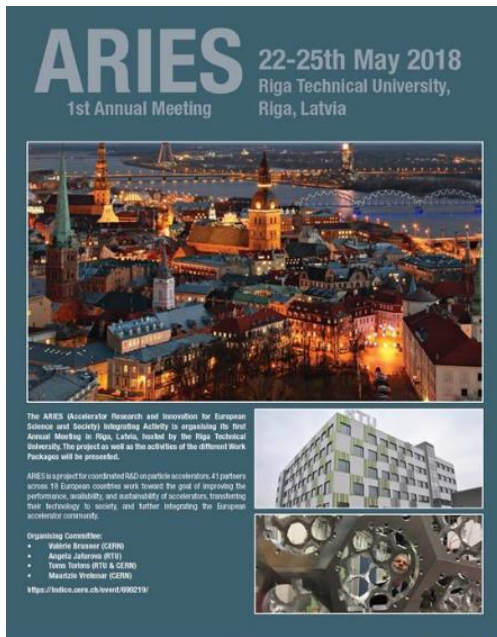
Akira Yamamoto

On behalf of SAC Members

The 1st ARIES Annual Meeting, Riga, 23-25 May, 2018

Executive Summary

- The committee congratulate the very successful progress in the ARIES collaboration activities accomplished in the 1st year.
- We have been very much impressed with all the progress report well prepared and excellently presented.
- We recognize every work package well organized and started to meet the ARIES scientific pillars/goals:
 - Excellence: develop key Accelerator Technology and improve European Accelerator Infrastructures
 - Access: Trans national access opening 14 accelerator test facilities, and enlarging consortium with new partners and countries
 - Innovation: enhance industrial participations with new co-innovation programs and develop social application programs
 - Sustainability: develop a model for sustainable accelerator science , and train new generation in accelerator science and technology
- We note that the EUCARD-II progress and spirit is extended with the ARIES collaboration.
- We hope that ARIES collaboration proceeds activities in the 2nd year, with well established work-packages, and encourage the activities to support possible new alternative ideas going in the direction of smaller footprint and lower cost, or of a better use of existing infrastructures,
- It should be emphasized to encourage further bi-beneficial cooperation between laboratories and industry to encourage the social application programs.



ARIES 22-25th May 2018
1st Annual Meeting Riga Technical University,
Riga, Latvia

The ARIES (Accelerator Research and Innovation for European Science and Society) Integrating Activity is organising its first Annual Meeting in Riga, Latvia, hosted by the Riga Technical University. The project as well as the activities of the different Work Packages will be presented.

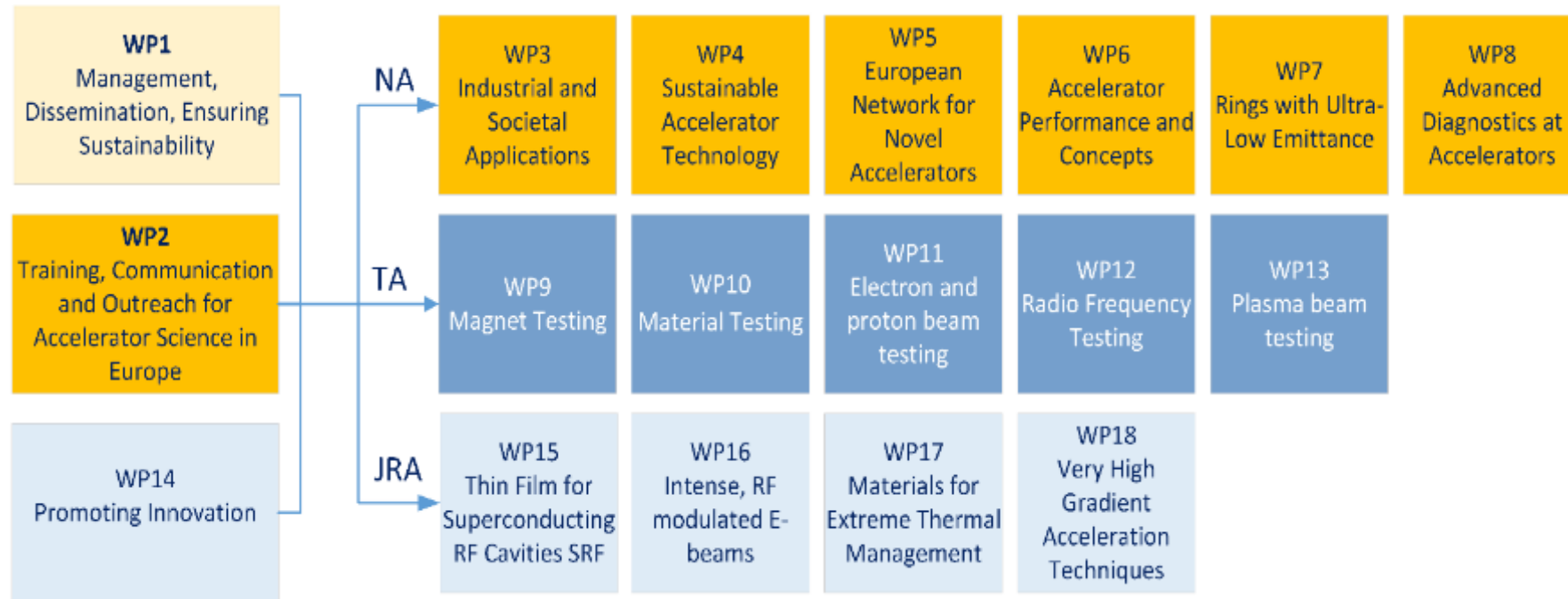
ARIES is a project for coordinated R&D on particle accelerators. 41 partners across 18 European countries work towards the goal of improving the performance, stability, and sustainability of accelerators, transferring their technology to society, and further integrating the European accelerator community.

Organising Committee:
• Valérie Sraesser (CERN)
• Angela Jafarova (ITP)
• Tomáš Turek (ITP & CERN)
• Maurizio Vellone (CERN)

<https://indico.cern.ch/event/990219/>

ARIES has received funding from the European Union's Horizon 2020 Research and Innovation programme (GA No 730671)

ARIES Structure



18 Workpackages:

8 **Networks** 5 **Transnational Access**, 5 **Joint Research Activities**.

Comments and Advices

- Communication and outreach activities, in particular,
 - e-learning on accelerator science is very interesting and unique activities matched with the ARIES spirit,
- Innovative works material research and test facility
 - The networking in Europe best fit to the ARIES motivation,
- Advanced accelerator science and technologies of
 - High-performance beam, diagnostics, e-gun,
 - Superconducting magnet with HTS,
 - High-gradient NRF, and SRF with thin-film should be very adequately focused,
- Further advanced accelerator concepts studies:
 - gamma-factory, muon colliders, Linear Colliders are much encouraged.

Plenary Presentations: 23 May (p.m.)

with my personal impression

14:00	Welcome from the Deputy Vice-rector for Research RTU	JUHNA, Talis TORIMS, Toms
14:20	Welcome from ARIES Coordinator and activity report	VRETENAR, Maurizio
14:40	Communication, training and outreach: report from WP2	BURROWS, Philip Nicholas
15:00	Progress towards the e-learning course on accelerator science	DELERUE, Nicolas
15:20	Dissemination and communication: video, social media, booklets	MULLER, Romain
15:50	Accelerator Performance and Concepts, report from WP6	ZIMMERMANN, Frank
16:10	Ultra-low emittance rings, report from WP7	BARTOLINI, Riccardo
16:30	Optics characterisation at ANKA including the high wiggler field	ZISOPOULOS, Panagiotis
16:50	Advanced diagnostics, report from WP8	FORCK, Peter
17:05	Intense RF modulated e-beams, report from WP16	ONDREKA, David
17:20	Design of the Electron gun for the GSI space charge compensation lens	SCHULTE-URLICHS, Kathrin
17:40	Design of the test stand for the CERN and GSI electron lenses	SADOVICH, Sergey


Plenary Presentations: 24 May (a.m.)

08:30	Materials for extreme thermal management, report from WP17	BERTARELLI, Alessandro
08:50	Material testing with extreme beams, report from TNA WP10	KADI, Yacine
09:05	Radiation induced changes in tungsten under pulsed heavy ion exposure at UNILAC-GSI	HABAINY, Jemila
09:25	Dynamic testing and characterisation of advanced materials in the MultiMat experiment at HiRadMat	PASQUALI, Michele
09:45	Testing of advanced RF structures, report from TNA WP12	RUBER, Roger
10:00	Testing of magnets and components at cryogenic temperatures, report from TNA WP9	BAJKO, Marta
10:15	The ARIES HTS cable programme	SENATORE, Carmine
11:00	EuroNNAC activities, report from WP5	DORDA, Ulrich
11:20	Plasma beam testing, report from the TNA WP13	CROS, Brigitte
11:35	Very high gradient acceleration techniques, report from WP18	SPECKA, Arnd Ernst
12:05	Comprehensive simulations of distortions and their mitigations related to measurements with ionisation profile monitors	VILSMEIER, Dominik
12:25	Testing with beams, report from the TNA WP11	SCHWINDLING, Jerome
12:40	Status at IPHI facility	MARCHAND, Claude

Plenary Presentations: 24 May (p.m.)

14:00	Cultural Programme	TORIMS, Toms
14:05	Innovation at ARIES, report from WP14	LOSASSO, Marcello
14:30	Development of metallic and ceramic composites for accelerators	CARRA, Federico
14:50	The Sushi test at SM18	BARNA, Daniel
15:10	Industrial and societal applications, report from WP3	EDGECOCK, Rob
16:00	Studies of marine diesel engine exhaust gas treatment	ZWOLINSKA, Ewa
16:20	Molybdenum 99 production using an electron beam	NAGEL, Candice
16:40	Efficient energy management at accelerators, report from WP4	SEIDEL, Mike
17:00	Energy-efficient design of the SINQ spallation neutron source moderator	CHARLES, Yoann
17:20	Thin film coatings for superconducting cavities, report from WP15	MALYSHEV, Oleg
17:40	Surface preparation of samples prior to thin film deposition	PIRA, Cristian

Plenary Presentations: 25 May (a.m.)



08:30	The gamma factory	KRASNY, Mieczyslaw
09:00	The muon collider	BOSCOLO, Manuela
09:30	ALEGRO, the Advanced linear collider study group	MUGGLI, Patric
10:00	Generation of positrons using laser-plasma electron beams	ALEJO, Aaron
10:20	Advances in space charge modelling and mitigations	FRANCHETTI, Giuliano
11:00	BELA – Project for Multidisciplinary Research Based on the ECR Ion Source and Linear Accelerator	KULEVOY, Timur
11:30	The SEEIIST Initiative	SAMMUT, Nicholas

Advances expected in the 2nd Year

- The 1st annual meeting is for SAC to learn the starting of the real activities in each WG, and to prepare for observation and advances in the 2nd annual meeting.
- We anticipate to hear excellent year-2 advances with enhanced members of SAC, and to enable useful advices in the next annual meeting 2019, and in the middle of the ARIES activities.