

Session Abstracts

Presentations will be considered for the following topics:

1. HWDB – How we do business (Chair: Glen Johns)

This session is an opportunity to share how your accelerator facility conducts its business with a focus on day to day operations. Topics of interest include:

- *General overview of your facility (types of accelerators/beams/targets/users);*
- *Operations organization description (shift rotation, number of operators, educational level/background/experience level, non-operator roles such as machine specialist or maintenance coordinator);*
- *Communication techniques (to each other across shifts, to maintenance personnel, to users, to management);*
- *Typical activities that operators perform while on-shift;*
- *Challenges you face on a daily basis;*
- *Lessons learned or other operational experiences that attendees can apply to their own facilities.*

2. Operator Interface to Controls (Chair: Petra Schuett)

This session, like the “How we do business” session, is dedicated to a global view on your daily working environment. How does the Operator “see” and “control” the accelerator? Is it a black box with few parameters to tune, or is it rather a long list of several hundred magnets and other devices, all with their individual settings? How often do you actively manipulate the accelerator settings, and which tools do you make use of? How do you monitor the machine? How do you troubleshoot? If you were in the position to start from scratch, which features of your operator interfaces would you keep, which would you change?

We hope to learn about several approaches in this session. In addition, a poll will be sent out to all registrants in advance, and an overview of the compiled responses will be presented.

3. Involving Operators with machine physics (Chair: Rossano Giachino)

This session is aimed at stimulating a constructive interaction between machine operation and machine physicists. During machine physics studies and beam commissioning, operation teams are heavily involved in the preparation of the accelerator for beam development setting up, covering studies well beyond standard operation tasks. What is the operator’s role when working with a machine physicist? How should we interact with the machine physicist in order to benefit from each other’s knowledge and expertise? Your experience will show how this collaboration contributes to increase motivation. Machine physicists can also profit from this exchange and the

knowledge transfer between domains. Feedback from the machine physics is paramount to understand the importance of this exchange.

4. Impact of New Technology for Control Room Operations (Chair: Peter Schuh)

Accelerator and control room hardware and software are constantly evolving. Some new devices, algorithms, and techniques have had a significant impact on the way we operate accelerators. Adopting new technology has resulted in higher efficiency, improved reliability, and increased safety. This session is an opportunity to share innovative systems or tools in use or under consideration for use at accelerator facilities and the impact on operations.

5. Training programs: structure, metrics, etc. (Chair: Montse Pont)

Most of the accelerator labs have established training programs for new operators. This session aims to learn: the tools which are used for the training; how the training is tracked; and if you do not use any established training program, how do you ensure that the knowledge is transferred to the new operators? In addition, for machines with a low failure rate, developing tools for continuous training might help to keep the operators updated. We would like to know what kind of tools are used at the different labs to ensure the best training for the operators, and how this continuous training is tracked or evaluated.

6. Operator-made tools and software (Chair: Kazuro Furukawa)

Various operator-made tools have supported accelerator operations. They would automate common procedures and enhance the reliability of the beam operation. This session focuses on the subjects around those operator-made tools. How effectively those tools are employed to improve the operation? How do operators plan the development of high-level applications? How those tools are adapted to ever-changing operation modes? What type of software environment should be provided? Are there any general tools to be shared or to be developed in collaboration among facilities? We would discuss our endeavours and achievements on those operator tools.

7. Beam Diagnostics – operator tools and techniques (Chair: Brian Freeman)

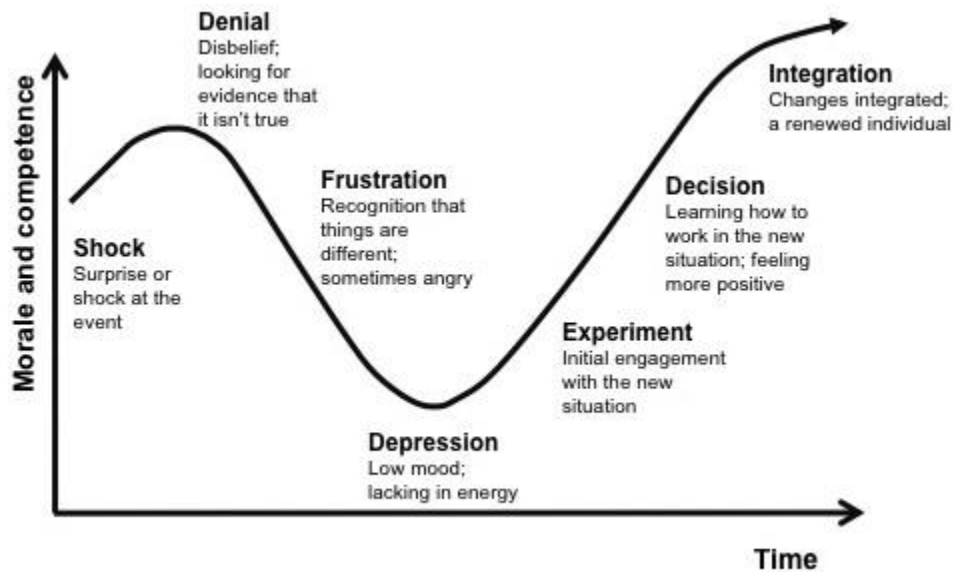
Those in Operations are generally the primary users of Diagnostic tools that help us monitor, measure, and maintain various beam parameters. How have you or members of your group helped develop, improve, or maintain various machine diagnostics to ensure that the tools are adequately and efficiently able to do the job it was intended for? How does Operations establish an interface into the development of such diagnostic tools that are useful to them? How can we get involved early enough to get useful diagnostics Operators want and can use? How have your groups been able to improve your diagnostics?

8. Adapting to change: learning a new machine, cross-training as an operator (Chair: Violeta Toma)

It is human nature to resist change initiated by others.

People accept and adapt to change in their own time. The way the change is communicated can help people on that journey but, gaining their understanding and buy-in will take time and the amount of time will often depend on the scale and impact of the change.

'Human stages in response to a change' curve based on Elisabeth Kubler-Ross model:



What changes did your Operations group experience and how did operators cope with it? What role did they play in designing and implementing a change? How smooth or bumpy a process was it?

9. Aging machines – dealing with legacy machines, fleeting knowledge (Chair: Jon Bonofiglio)

Wikipedia states that “Scientific progress is the idea that science increases its problem solving ability through the application of the scientific method”. This progress constantly requires new ideas, and new machines to implement those ideas. Our funding agencies however, require that we get the most science out of the machines currently in use. To this end, the accelerator community must deal with applying new ideas to aging accelerators. This session is an opportunity for the accelerator community to share their ideas with their counterparts throughout the world. How do you keep accelerators that are 20, 30 or more years old running reliably? What do you do when the designers, builders and maintenance personnel have retired, but their knowledge is still needed? How do you capture their knowledge for future use? These are but a few questions that must be answered so we may continue to reliably run aging accelerators to meet the needs of funding agencies and the scientific community.

10. Commissioning: Operator involvement, learning operations from commissioners/physicists (Chair: Dan Johnson)

When new machines and systems come online, the physicists and experts want to work on it and keep Operators at a distance. At some point, they are comfortable with its operation and leave it for the Operators. A mad scramble for information and documentation quickly ensues.

There are clearly better ways to bring machines and systems online, while keeping Operations involved from the beginning through commissioning. In this session we would like to see examples of how this is accomplished at different facilities. Machine and system commissioning may be handled differently, so please feel free to distinguish between them.

11. Building a control room (Chair: Michael Bieler)

The accelerator control room is the heart of every accelerator facility. Here operators have to perform well during boring nights as well as during busy days with lots of activity around them. In the early days a control room used to be a cold, noisy place confined by 19" racks.

Nowadays a well-designed control room can provide a much better working environment. Talks in this session should show examples for upgrading a control room by improved lights (both artificial and natural), noise control, information management (big screens, a wall of screens), furniture or other ergonomic aspects.

Another important factor for the success of operations can be the mixture of skills in the control room. Apart from accelerator operations the room could host experts for utilities like power, water, air conditioning or cryogenics. The ideal contribution for this session would show the entire design process for a control room that has recently been built from scratch.

12. Compact facility operations (Chair: Yoshiyuki Iwata)

With the development of accelerator physics and technology, the applications of accelerators were opened to various research fields, and many of compact accelerator facilities are constructed around the world. This session is aimed to discuss unique operation problems for those compact facilities. With a small staff, operators need to know something about all aspects of the facility. How do you master enough knowledge in all the various parts of facility operations?

13. Operator roles outside of Operations (Chair: Violeta Toma)

The life of an operator has too speeds: slow and crazy.

A day with multiple power bumps when all goes down just as you managed to bring it back up, beam is misbehaving and some unknown intermittent fault makes delivery hell while the phone goes off the hook with impatient users asking for beam, is called 'crazy'.

A day when the machine behaves and there are no issues is called slow.

*So, what do operators do on slow days? I mean, web surfing is **not** known to promote career progression. How do operators keep busy and engaged in activities which benefit their career and the organization? What opportunities do operators have to maintain, improve and acquire skills other than beam delivery related? Do they choose or are they assigned projects? Do they receive recognition for the side project? What projects are appropriate for a shift worker?*

We want to hear and learn from your experience.

Discussion Topics

Apart from individual presentations, there will be two discussion periods during the Workshop. One is an open forum where participants can raise any topics of interest; the second discussion session will be selected topics chosen prior to the discussion, with parallel sessions for attendees to choose.

Poster/Demo Sessions

In addition to submitted talks, there will be a poster session where attendees can contribute to the Workshop with a poster pertaining to one of the session topics.

As a third alternative, we are also accepting a small number of submissions for live software demonstration. During the poster session we will provide a few display kiosks where one can demonstrate software, applications, web content, etc. from your facility. A brief written summary of your work is also required, so that we may record your contribution on the WAO website with the other posters and presentations for future reference.

See submission guidelines for more information.