

Australian Instrumentation Engineers: Let's Collaborate More!

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Australian
National
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Image: Cliché image of disciplinary/institutional silos.

Engineering Meetings Within a Scientific Field

Within a single field of science there are some great engineering meetings, often spanning engineering disciplines, e.g:

- SPIE - optics and photonics.
- DENIM - neutron instruments.
- ADASS - astronomical data processing.
- ...



Image: lolly.com.au

Meetings Within an Engineering Discipline

There are of course many great conferences focussing on a single engineering discipline, which may span multiple scientific fields.

- This meeting - mostly controls? Various facilities represented.
- ICALEPCS - Physics control systems.
- Scientific Detector Workshop (SDW).
- Mechanical?
- Cryo?
- HPC?
- Systems engineering?



Image: lolliland.com.au

What About Meetings With a Broader Australian Instrumentation Engineering Focus?

- Not something we manage well even within a single large institution, e.g. ANU, CSIRO.
- Today's meeting is great!
 - Some great facilities represented.
 - Mostly a controls focus.
- What other good forums are there?



Why Does it Matter?

- Many of the **engineering building blocks** across our facilities are identical.
 - E.g. growing use of EtherCAT, in some cases same cryostats, same mechanical design tools, motion control stages, same need for remote operators while maintaining secure network infrastructure, etc.
- Face similar issues in instrumentation engineering across facilities:
 - Research instruments, requirements not always fixed or clear at the start - different to most industrial engineering.
 - Limited budgets and resources.
 - Assembly, integration, test of one-off bespoke systems.
 - We need to **share our mistakes** and our successes.
 - We can all think of **something we wish we knew five years ago**.
- Better understanding of each others capabilities can make all of our lives easier.
 - Leveraging each other's experience = efficiency gains for a clever country.
 - E.g. MAVIS astrometric calibration plate metrology.
 - E.g. Synchrotron using same CFC we want to use for MAVIS.
- Professional networking - might lead to **your next job** when the time comes!



Image: JEPS Bulletin

Support from RSAA

- Recent call for Strategic Initiatives within the Research School of Astronomy and Astrophysics.
- Obtained funding from RSAA Management Team/Director Matthew Colless to facilitate a cross-disciplinary, cross-facility Australian physics instrumentation meeting.
 - Mostly for staff time, but can extend to admin support and sandwiches!
 - Aiming for something informal and collaborative.
- What's our next move?
 - Identify similar meetings?
 - Identify key people/facilities.
 - Organising committee.
 - Contribute to growing this meeting?
 - Please contact: david.brodrick@anu.edu.au



Image: indiamart.com