



# 10TH INTERNATIONAL PARTICLE ACCELERATOR CONFERENCE

19-24 May 2019



# The Logo Slide

For all your sponsorship needs



# Local Organising Committee (LOC)

- Sad passing of Greg LeBlanc, LOC Chair December 30<sup>th</sup> 2018
- IPAC'19 was organized by the LOC consisting of 13 members working in conjunction with ASN Events (PCO).
- Key responsibilities were assigned with Rohan Dowd taking on LOC Chair position
- **LOC meet monthly since Nov 2017**
- **Fortnightly Work In Progress (WIP) meetings: LOC Chair/s & Event Project Leader since Jan 2018**
- **Fortnightly Operations meetings: PCO & Event Project Leader**
- Members coordinated with other IPACs for knowledge transfer and best practice

**Rohan Dowd, Chair & SPMS Administrator**

Senior Accelerator Physicist  
Australian Synchrotron – ANSTO

**Eugene Tan, Co-Chair & Student Coordinator**

Senior Accelerator Physicist  
Australian Synchrotron – ANSTO

**Nicole White, Event Project Manager, PCO Support and Scientific Secretary**

Nicole A. White Projects  
Melbourne

**David Button, Proceedings Manager**

Senior Instrumentation Scientist  
Centre for Accelerator Science – ANSTO

**Alan Cowie, IT Manager**

Technical IT Security Officer  
ANSTO

**Nick Hauser, IT Manager**

Leader, Computing and Electronics  
Australian Centre for Neutron Scattering - ANSTO

+ Mark Caetano

**Mike Lafky, Technical Tour Manager**

Group Leader, Accelerator Operators  
Australian Synchrotron – ANSTO

**Jaye Muir, Public Affairs**

Stakeholder Relations Advisor  
Australian Synchrotron – ANSTO

**Kerry Hayes, Industry and Sponsoring**

Group Leader, Industry Engagement  
Australian Synchrotron – ANSTO

**Dieter Pelz, Industry and Sponsoring**

Research and Development Manager  
Radio Frequency Systems Pty Limited (Retired)

**Dean Morris, Conference Support**

Head of Operations  
Australian Synchrotron – ANSTO

**Roger Rassool, Conference Support**

Associate Professor  
School of Physics - University of Melbourne

# Role Sharing

- With a small team, there was quite a bit of role sharing, some voluntary, some not.
- Early on, (JTM17), Nicole and I decided to split up the SS role according to our skills and experience.
  - Nicole took most of the committee comms and coordination as well as overall project management
  - I took all the main SPMS and scientific program tasks (speakers/posters/etc)
- Eugene started as student program admin, but stepped up activities and did a lot of SPMS interfacing with website scripts, conference App, etc.
- IT was shared between Mitchell, Alan and Mark. Mark was the main 'on-site' person

# Nicole's Role

- Project Manager.
- Made sure everything was on track.
- Sent reminders and priority action lists to key LOC members
- Liaised with OC, SPC, LOC, PCO, IPACCC and handled comms.
- Managed the PCO (no small task) with fortnightly->weekly operations meetings

Nicole's experience with event organisation, conference logistics and PCO wrangling were critical to the success of the conference

# SPMS Administration

- Handled by me (Rohan) because no one else wanted to do it 😊
- It helped to have familiarity with the IPAC conference series and general database/programming knowledge when managing SPMS
- It didn't help to become LOC chair at same time
- Much help from Todd, Christine, Ivan, Stefano with tasks and interface scripts. Eugene handled a lot of the interfacing in SPMS from the LOC side.
- Steep learning curve for some things, but manageable. However lots of hidden 'gotchas' that caused unnecessary issue.

# PCO Responsibilities

- Registration online and on-site
  - Contracting of conference hotel room blocks
  - Pre & post tours
  - Exhibition & Sponsorship fulfilment
  - Official invitation letters for individuals requiring funding support from their laboratories
- 
- Issues :
    - PCO overpromising, especially in IT area.
    - JACoW requirements cause tension with PCO – not the way they do conferences normally.
    - Particularly in advertising
    - Used to profit maximising
    - PCO was often not working in our best interest and used deadlines to push their own products.

# Registration

- Handled by PCO with data transferred back to SPMS(\*)
- Industry registration performed separately to ease purchase of industry booths without requiring exhibitor's names.
- Some issues with registered vs Paid. We need to make this clear to delegates. Caused some early issues with withdrawing.
  - An issue of delegate culture?
- Late decision to use a new registration system with self registration and on the spot lanyard printing. Removes need for printing event tickets



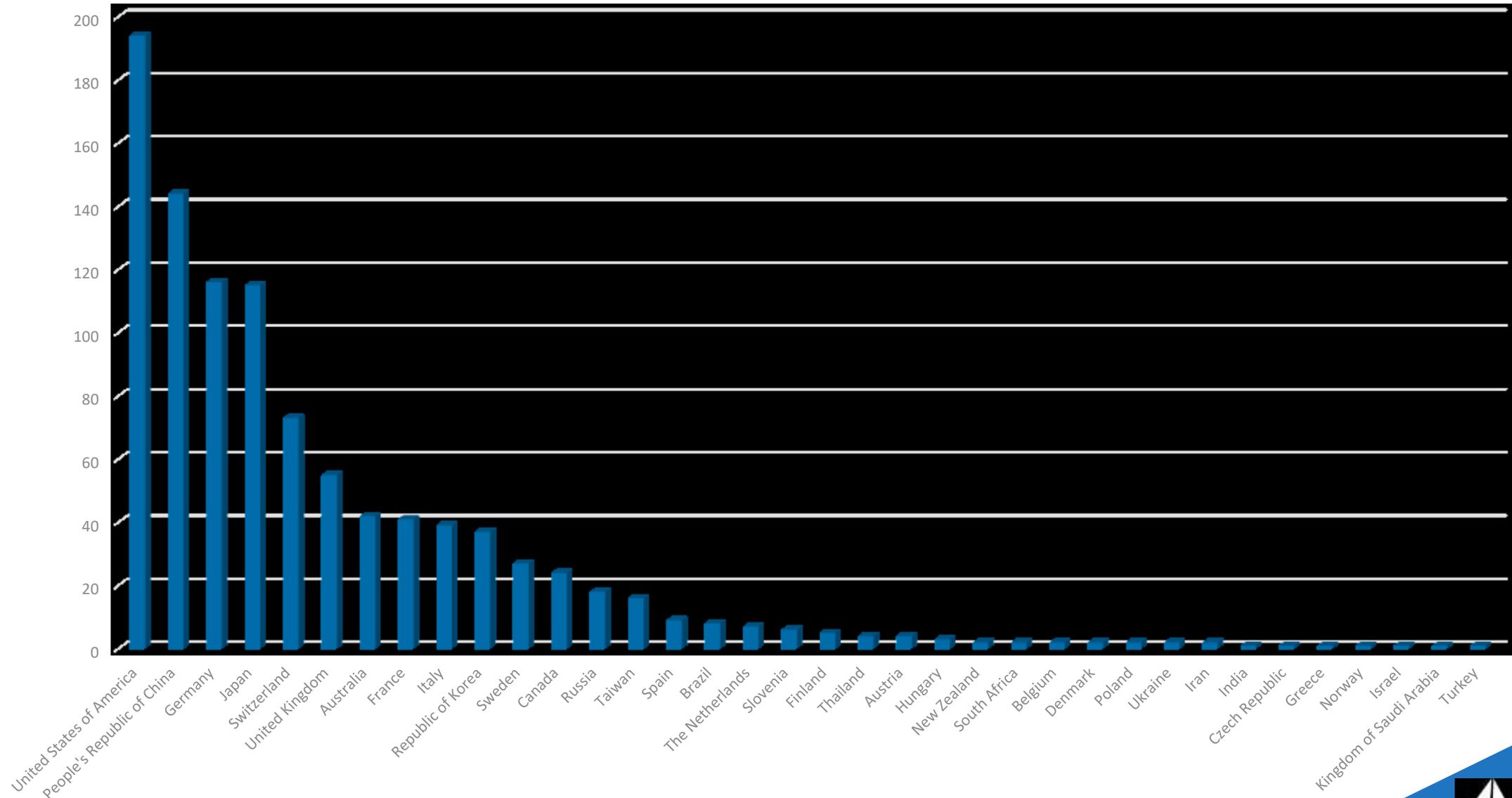
# Registration: Delegate Types and Number

- Self registration using QR and personal codes.

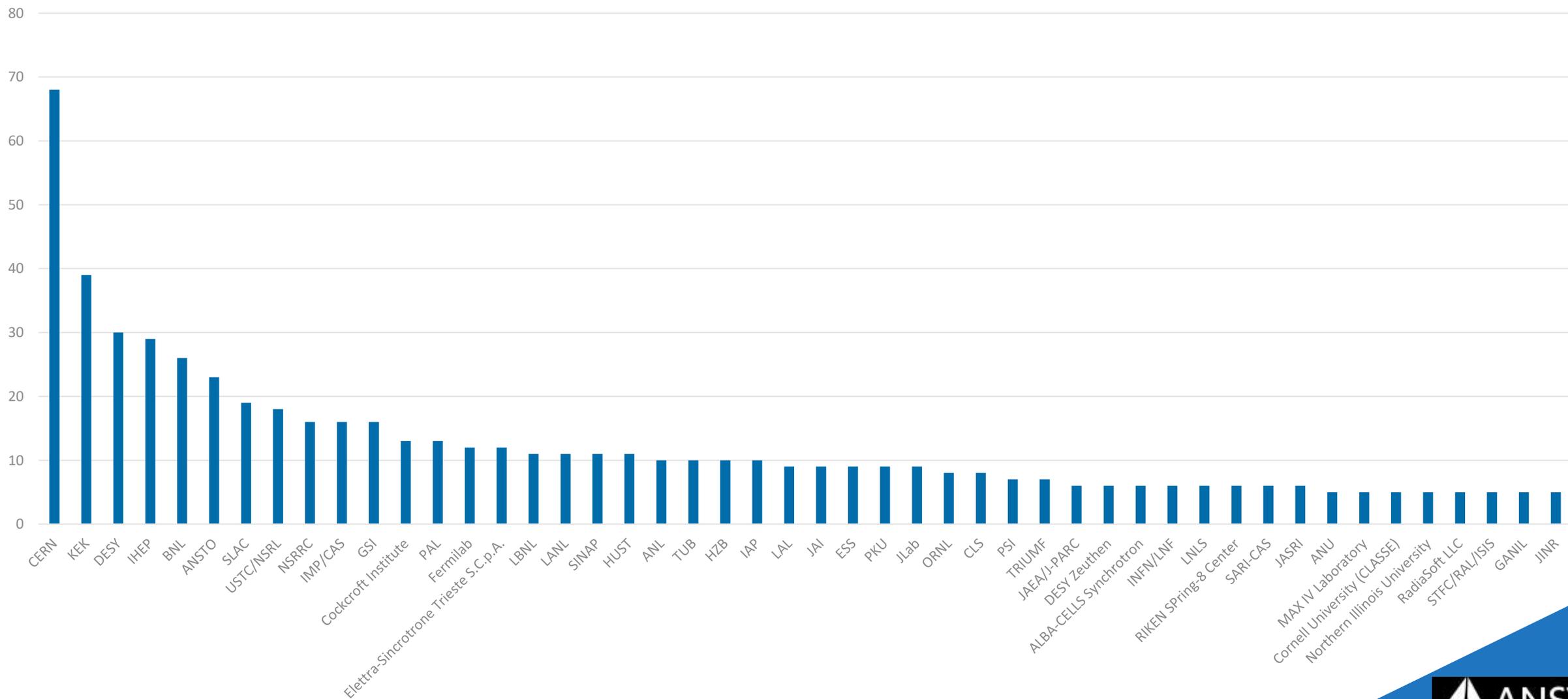
|   |             |
|---|-------------|
| Complimentary VIP and Invited Registrations | 25          |
| Editorial Team Full Registration            | 34          |
| Full Registration                           | 798         |
| Industry/Sponsor Registrations              | 146         |
| Student Registrations (incl 79 grants)      | 167         |
| Workshops only                              | 16          |
|   | <b>1186</b> |



# Attendees by Country



# Attendees by Institute (top 50)



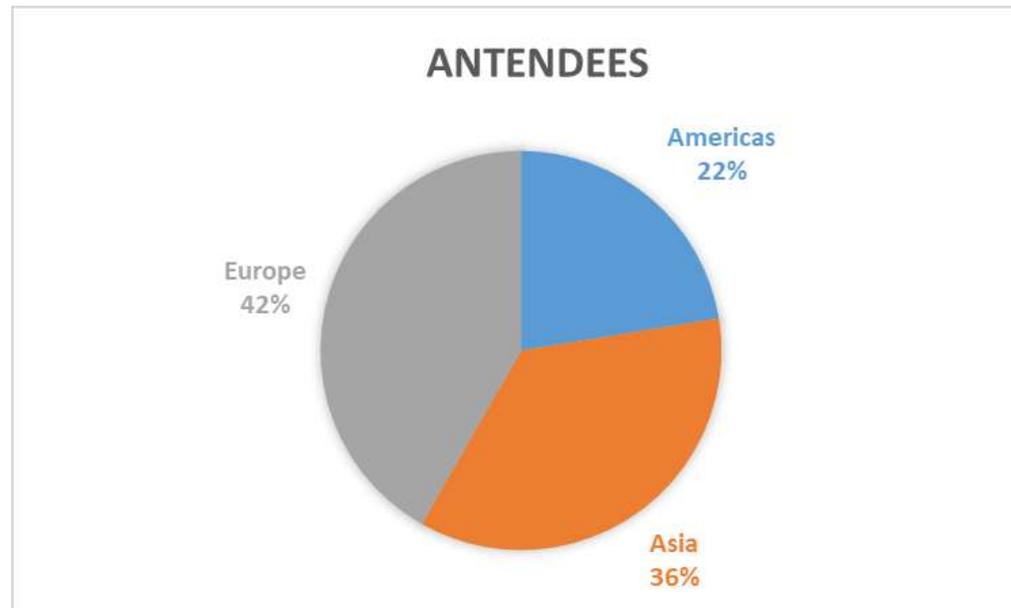
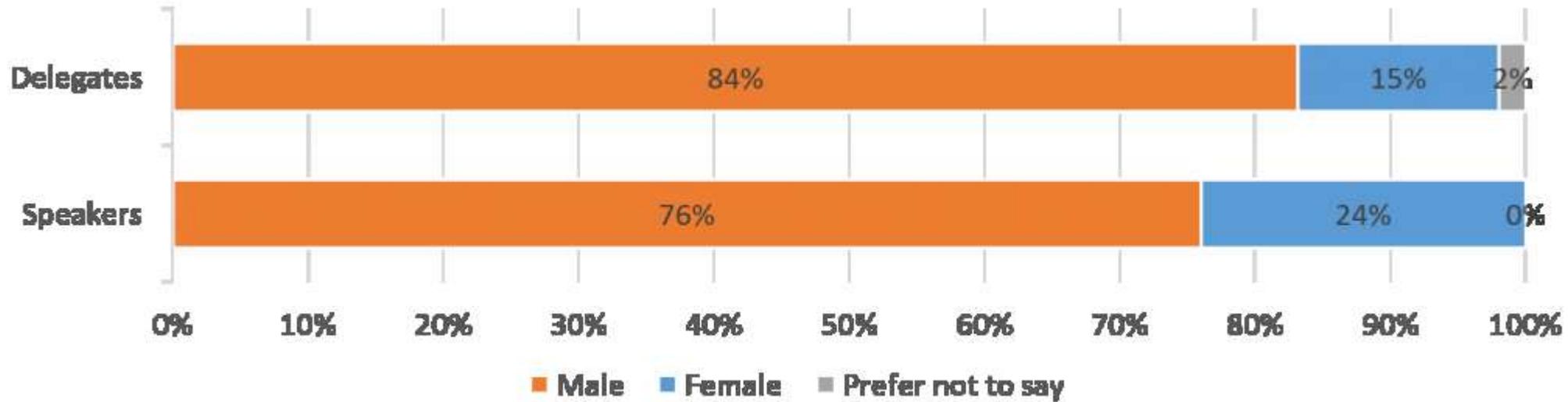
# Scientific Program

- SPC chaired by Hitoshi Tanaka.
- SPC2 in Vancouver, April 2018
- SPC3 in Bangkok, Jan 2019
- 2 parallel sessions for contributed
- 82 speakers total
- 24% Female, 35% Americas 31%, Europe, 33% Asia
- LOC had diversity as a priority and SPC worked hard to achieve this

| Start | Location | Priority #1              | Priority #2 | Priority #3 | Priority #4  |
|-------|----------|--------------------------|-------------|-------------|--|
| 9:00  |          | Registration             |             |             | Registration (09:00-10:00)                                 |
| 9:15  |          | Opening Ceremony         |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 9:30  |          | Session 1 (09:30-10:30)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 9:45  |          | Session 2 (09:45-10:45)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 10:00 |          | Session 3 (10:00-11:00)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 10:15 |          | Session 4 (10:15-11:15)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 10:30 |          | Session 5 (10:30-11:30)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 10:45 |          | Session 6 (10:45-11:45)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 11:00 |          | Session 7 (11:00-12:00)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 11:15 |          | Session 8 (11:15-12:15)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 11:30 |          | Session 9 (11:30-12:30)  |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 11:45 |          | Session 10 (11:45-12:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 12:00 |          | Session 11 (12:00-13:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 12:15 |          | Session 12 (12:15-13:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 12:30 |          | Session 13 (12:30-13:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 12:45 |          | Session 14 (12:45-13:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 13:00 |          | Session 15 (13:00-14:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 13:15 |          | Session 16 (13:15-14:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 13:30 |          | Session 17 (13:30-14:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 13:45 |          | Session 18 (13:45-14:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 14:00 |          | Session 19 (14:00-15:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 14:15 |          | Session 20 (14:15-15:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 14:30 |          | Session 21 (14:30-15:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 14:45 |          | Session 22 (14:45-15:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 15:00 |          | Session 23 (15:00-16:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 15:15 |          | Session 24 (15:15-16:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 15:30 |          | Session 25 (15:30-16:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 15:45 |          | Session 26 (15:45-16:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 16:00 |          | Session 27 (16:00-17:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 16:15 |          | Session 28 (16:15-17:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 16:30 |          | Session 29 (16:30-17:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 16:45 |          | Session 30 (16:45-17:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 17:00 |          | Session 31 (17:00-18:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 17:15 |          | Session 32 (17:15-18:15) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 17:30 |          | Session 33 (17:30-18:30) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 17:45 |          | Session 34 (17:45-18:45) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |
| 18:00 |          | Session 35 (18:00-19:00) |             |             | Keynote: Science Education and Innovation (Hitoshi Tanaka) |

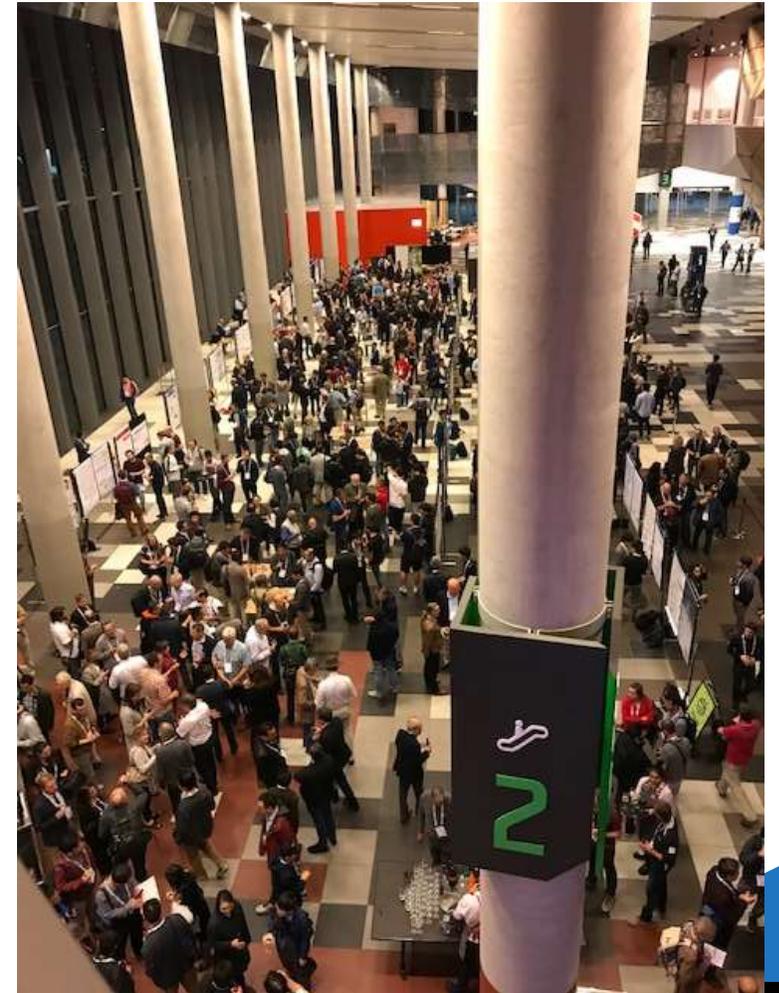


# Diversity Statistics



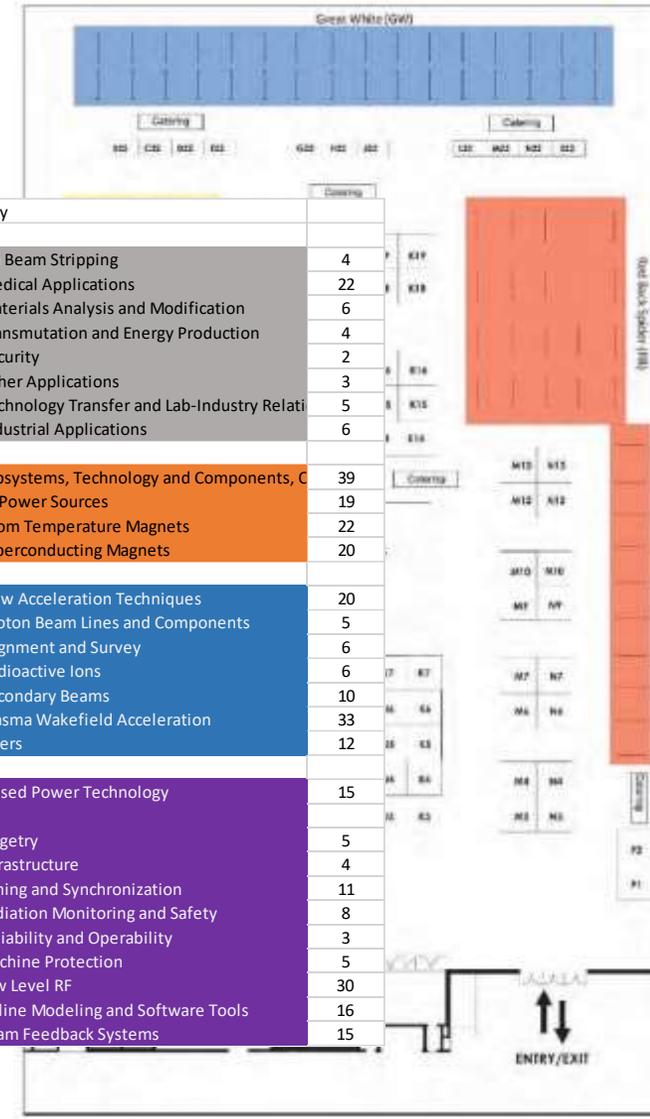
# Student Poster Session

- Organised by Toshiyuki Mitsuhashi (KEK).
- Poster Session 14:00 to 18:00
- 130 student posters, 28 judges + 2 (IPAC20), 14 teams, 7-10 posters each (grouped by MC area of expertise). Took ~4.5 hr
- 2<sup>nd</sup> round only 14 posters, 4 judges, 2 teams. Took ~1.5 hr
- Need to consider a semipermanent judging group or process.



# Poster Areas

| accelerator theory and RF |         |           |          | Monday  | Tuesday | Wednesday                            | Thursday |   |     |   |    |
|---------------------------|---------|-----------|----------|---|---------|--------------------------------------|----------|---|-----|---|----|
| Monday                    | Tuesday | Wednesday | Thursday |   |         |                                      |          |   |     |   |    |
| 51                        | 56      | 52        | 52       | A01 Hadron Colliders  | 33      | T11 Power Supplies                   | 23       | T12 Beam Injection/Extraction and Transfer    | 52  | T32 Ion Beam Stripping                                | 4  |
| 120                       | 106     | 96        | 115      | A02 Lepton Colliders  | 11      | T13 Cryogenics                       | 6        |   |     | U01 Medical Applications                              | 22 |
| 128                       | 105     | 116       | 119      | A03 Linear Colliders  | 7       | T14 Vacuum Technology                | 27       | D06 Coherent and Incoherent Instabilities     | 7   | U02 Materials Analysis and Modification               | 6  |
| 115                       | 103     | 104       | 112      |   |         |                                      |          | D07 High Intensity Circular Machines          | 14  | U03 Transmutation and Energy Production               | 4  |
|                           |         |           |          | A04 Circular Accelerators                                   | 42      | A17 High Intensity Accelerators      | 10       | D08 High Intensity in Linear Accelerators     | 11  | U04 Security  | 2  |
|                           |         |           |          | A08 Linear Accelerators                                     | 78      | A13 Cyclotrons                       | 8        | D09 Emittance Manipulation, Bunch Compression | 11  | U05 Other Applications                                | 3  |
|                           |         |           |          |   |         | A14 Neutron Spallation Facilities    | 7        | D10 Beam-Beam Effects - Theory, Simulation    | 13  | U06 Technology Transfer and Lab-Industry Relations    | 5  |
|                           |         |           |          | D01 Beam Optics - Lattices, Correction Schemes, Transport   | 49      | T01 Proton and Ion Sources           | 19       | D11 Code Developments and Simulation          | 37  | U07 Industrial Applications                           | 6  |
|                           |         |           |          | D02 Non-linear Single Particle Dynamics                     | 24      | T02 Electron Sources                 | 57       | D12 Electron Cloud and Trapped Ion Effects    | 3   |   |    |
|                           |         |           |          | D03 Calculations of EM Fields - Theory and Code Development | 17      | T28 Neutron Sources                  | 2        |   |     | T31 Subsystems, Technology and Components, Components | 39 |
|                           |         |           |          | D04 Beam Coupling Impedance - Theory, Simulation            | 18      | A11 Beam Cooling                     | 3        | T03 Beam Diagnostics and Instrumentation      | 101 | T08 RF Power Sources                                  | 19 |
|                           |         |           |          | D05 Coherent and Incoherent Instabilities - Theory          | 20      |                                      |          | T04 Accelerator/Storage Ring Control Systems  | 14  | T09 Room Temperature Magnets                          | 22 |
|                           |         |           |          |   |         | A18 Energy Recovery Linacs           | 9        |   |     | T10 Superconducting Magnets                           | 20 |
|                           |         |           |          | A09 Muon Accelerators and Neutrino Factories                | 4       | A23 Other Linac-Based Photon Sources | 10       | T06 Room Temperature RF                       | 53  |   |    |
|                           |         |           |          | T19 Collimation   | 12      | A05 Synchrotron Radiation Facilities | 86       | T07 Superconducting RF                        | 51  | A15 New Acceleration Techniques                       | 20 |
|                           |         |           |          | A12 Fixed-Field Alternating Gradient Accelerators           | 8       |                                      |          |   |     | T26 Photon Beam Lines and Components                  | 5  |
|                           |         |           |          | A09 Muon Accelerators and Neutrino Factories                | 8       | T15 Undulators and Wigglers          | 24       |   |     | T17 Alignment and Survey                              | 6  |
|                           |         |           |          | A19 Electron-Hadron Colliders                               | 25      | A06 Free Electron Lasers             | 77       |   |     | A20 Radioactive Ions                                  | 6  |
|                           |         |           |          | A24 Accelerators and Storage Rings, Other                   | 39      | A07 Electrostatic Accelerators       | 2        |   |     | A21 Secondary Beams                                   | 10 |
|                           |         |           |          | A16 Advanced Concepts                                       | 19      |                                      |          |   |     | A22 Plasma Wakefield Acceleration                     | 33 |
|                           |         |           |          |   |         |                                      |          |   |     | T25 Lasers  | 12 |
|                           |         |           |          |   |         |                                      |          |   |     | T16 Pulsed Power Technology                           | 15 |
|                           |         |           |          |   |         |                                      |          |   |     | T20 Targetry  | 5  |
|                           |         |           |          |   |         |                                      |          |   |     | T21 Infrastructure                                    | 4  |
|                           |         |           |          |   |         |                                      |          |   |     | T24 Timing and Synchronization                        | 11 |
|                           |         |           |          |   |         |                                      |          |   |     | T18 Radiation Monitoring and Safety                   | 8  |
|                           |         |           |          |   |         |                                      |          |   |     | T22 Reliability and Operability                       | 3  |
|                           |         |           |          |   |         |                                      |          |   |     | T23 Machine Protection                                | 5  |
|                           |         |           |          |   |         |                                      |          |   |     | T27 Low Level RF                                      | 30 |
|                           |         |           |          |   |         |                                      |          |   |     | T33 Online Modeling and Software Tools                | 16 |
|                           |         |           |          |   |         |                                      |          |   |     | T05 Beam Feedback Systems                             | 15 |
|                           |         |           |          |   |         | A18 Energy Recovery Linacs           | 0        |   |     |   |    |
|                           |         |           |          |   |         | A10 Damping Rings                    | 0        |   |     |   |    |



# Poster Police

- 3 to 4 people per poster session. Each doing 110 to 120 posters.
- Combination of student grant volunteers and LOC staff.
- Completed between 1 to 1.5 hours.
  
- Some Poster police made mistakes in data entry, which led to problems in proceedings.

# The IPAC'19 JACoW Team of 35 Represented by 24 International Accelerator Organisations and Facilities



*30 International Flights, and 247 Person Days*  
**[49.4 Person Weeks Gifted Int. Support to ANSTO]**

# Running Stats



Assigned Papers To Editors IPAC'19



5 de maio de 2019  
6 de maio de 2019  
7 de maio de 2019  
8 de maio de 2019  
9 de maio de 2019  
10 de maio de 2019  
11 de maio de 2019  
12 de maio de 2019  
13 de maio de 2019  
14 de maio de 2019  
15 de maio de 2019

100,00%  
90,00%  
80,00%  
70,00%  
60,00%  
50,00%  
40,00%  
30,00%  
20,00%  
10,00%  
0,00%

100% Done  
90% Done  
80% Done

# Speaker Ready

- Aply managed by Vincent Mitts and Takashi Kosuge
- 3 work stations (PC) Macs available in case needed.
- Some issues with the Conference centre rules on transferring files and allowed machines on its network. Mostly sorted by end of first day.
- Set in a dedicated room, near editor room.

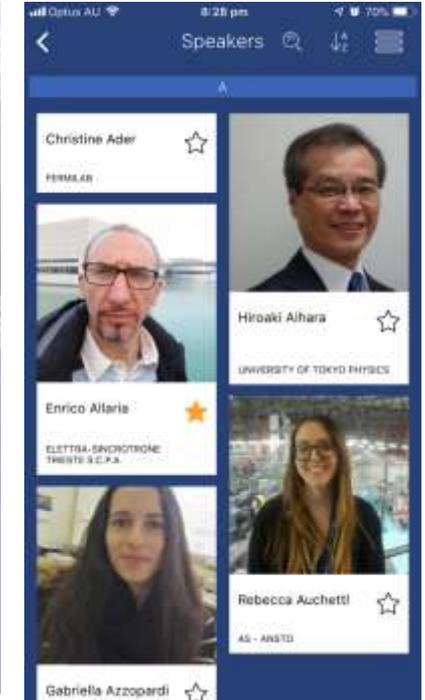
# Light Peer review

- SPB board chair passed away in January, leading to Alex Bogacz once again leading the effort.
- Slow start. Many reviews did not respect the tight timelines, Alex had to take on many papers himself.
- > 200 Papers reviewed, 90% accepted
- LPR interferes with poster session organisation timelines and contributes to disjointed authors/empty poster boards
- Final Tally – 200 papers submitted to IOP
- Have an Agreement BEFORE your conference.
- Be aware of the cost implications to the conferece (was 24 Euro per paper for us, 40 in future)
- Be very clear on who is doing what. There is more work to be done after papers are ready for submission to IOP
- Value of IOP?

| Referees | Papers |
|----------|--------|
| 179      | 1      |
| 121      | 2      |
| 1        | 3      |
| 1        | 4      |
| 1        | 39     |

# Conference App

- Same developer as previous years
- Secured the same app for IPAC'20 and IPAC'21
- App installation 859 (80%): 424 (iOS) and 435 (Android)
  - 9 Push notifications for reminders and changes.
- 970 delegates (including students) ~130 printed Conference Guides were taken by delegates
- Trialling “Ask Moderator”: ~40 submitted questions
  - Used iPad on the session chair table.
- Uploaded speaker profiles.
- Only ~150 conference booklets were taken Printed Conference Guide no longer required, hampers workflow - use the App as the primary reference.



# Whatsapp

- LOC core group formed a Whatsapp chat group for communication during the conference.
- Much more effective than radios, because it could be used silently and messages would persist.
- Could also send photos of problems so that others could immediately see the issue
- Still being used to this day to chat.



# Banquet

- Usual issues with people wanting tickets at last minute.
- We had some reserve, but it was all used up
- Entertainment talk was done during banquet for logistical reasons, but worked well



# Industrial Exhibit and sponsorship

- 66 booths sold (target 70)
- Total target \$697,750, raised \$586,682 (84%)
- 4 day industrial exhibit
- Very little local industry, and distance of conference decreased numbers on industry.
- Sponsorship: Only sold 1 booklet advert, 1 recharge station and lanyard sponsorship.

# Lunch and Networking Lounge

- These we set up to help make proposition to Industry more attractive. We wanted to maximise Delegate presence in the exhibition area and not to 'lose people' in the city at lunchtimes.
- Lunch catered for 850 per day.
- Networking lounge was well used.



# Outreach through Twitter

- Trialled the use of Twitter to promote the conference.
- Opening and closing plenaries were live streamed.
- Australian Sync @ausynchrotron
  - 150 loved and 40 retweets
- ANSTO @ansto
  - 63 loved and 17 retweets
- Conclusion - Not a huge response, but probably a good thing to try and continue in some form.



2 10

**Australian Synchrotron** @ausynchrotron · May 20

And that's a wrap on day one! Here are some of today's highlights. You can check out tomorrow's program by downloading the IPAC'19 app or by visiting: [bit.ly/2WNw3FI](https://bit.ly/2WNw3FI) #IPAC2019 #Melbourne @ANSTO



4 20

**Australian Synchrotron** @ausynchrotron · May 19

# THINGS WE WISH WE KNEW BEFORE

And things we'd like to see change



Every normal man must be tempted,  
at times, to spit on his hands, hoist the  
black flag, and begin slitting throats.

H. L. Mencken

# Things to pass on

1. Managing SPMS needs someone comfortable with database programs and simple programming, as well as familiar with IPAC structure and the expectations/behaviours of delegates. A team or more than one is also possible with good comms.
2. Delegates can be trusted to NOT read the instructions
3. IPACs (and all conferences?) should get more strict on deadlines.
4. Realise that SPMS does not warn an author when their paper has been red dotted due to poster police. Can have issues if poster police made a mistake. Authors should check when pre-press is released, but again see point 2.
5. Poster and paper codes – these should be disentangled to allow for flexibility, savings and elimination of empty poster boards. Eg – catered for 1700 posters, only 1400 used
6. Don't screw up your poster sorting – sort by institute before country/person/etc. Helps stop disjointed authors.
7. Light Peer review – This really needs to be sorted out properly in a sustainable way.

# More things

1. Don't underestimate the workload for student poster sessions/poster police.
2. Printed Conference Guide no longer required, hampers workflow - use the App as the primary reference.
3. We should review how to market IPAC to new audiences without too much duplication of email lists.
4. Lots of uncertainty about requirements vs 'traditions' for IPAC. Clear unambiguous 'bottom line' of expectations needed.
5. The point of the OC? What it is achieving that SPC and LOC and IPACCC cannot do?



# Thank you for your support

# Budget Overview

| Expenditure                       | Budget              |
|-----------------------------------|---------------------|
| Venue + Catering                  | \$785k              |
| Editorial Office                  | \$147k              |
| Editorial tools development + App | \$20k + \$8k        |
| SPC/OC costs                      | \$39k               |
| Conference organising costs       | \$250k              |
| Student grant support             | \$67k + \$60 (2020) |
| Booklet printing                  | \$15k               |
| Misc. other costs                 | \$170k              |
| <b>Total Expenditure</b>          | <b>\$1,569k</b>     |

| Income                   | Budget          |
|--------------------------|-----------------|
| MCB + City Melb. Support | \$260k          |
| Delegate rego.           | \$792k          |
| Industry sponsorship     | \$584k          |
| <b>Total Income</b>      | <b>\$1,636k</b> |

| Registration Cost Comparison (Standard Registration) |                           |
|--|---------------------------|
| 2018   | \$1,112.40 AUD (1080 CND) |
| 2019   | \$1,080.00 AUD            |

Budget had been originally set for 900 delegates and reduced industry presence. Reached 85% of industry target and 125% of delegate target. Final budget outcome was ~\$98k