

The International Particle Accelerator Conference



Rob Yarbray
IPAC'17 Exhibition and Sponsor Management

www.ipac17.org

Fast Facts



- **Dates:** 14–17 May 2017 – Complete conference and exhibition
18–19 May 2017 – Scientific meetings only
- **About:** IPAC is the premier annual event in the field of particle accelerators
- **Attendees:** Over 1,200 physicists and leaders of the world's Particle Accelerator Laboratories and over 300 supporting members of industry. These attendees are decision makers and influencers in the buying process for new, highly advanced labs (such as €2B ESS) and lab upgrades (CERN LHC upgrade).
- **Venue:** [Bella Center Copenhagen](#) (Denmark)
- **Logistics:** Bella Center is conveniently located in between Copenhagen International Airport and the city itself, with an approximately 10 minute cab ride from the airport. Connected by both rail and motorway, attendees can reach the city center in 10 minutes.
- **Lodging:** The official conference hotel is Bella Skye Hotel, with many other nearby hotels.
- **Host:** The European Spallation Source (ESS), a neutron source facility with 15 countries participating as both cash and in-kind contributors.
- **Co-hosts:** With the importance of hosting IPAC has for the region, ESS has further chosen [Aarhus University](#) and [MAX IV](#) as co-hosts.





IPAC grew out of a merger between:

- **APAC** (ASIA), a triennial conference: began in 1998 in Tsukuba, and finished in 2007, passing through Beijing, Pohang and Indore
- **EPAC** (EUROPE), a biennial conference: began in 1988 in Rome, and finished in 2008, passing through Nice, Berlin, London, Sitges, Stockholm, Vienna, Paris, Lucerne, Edinburgh and Genoa
- **PAC** (NORTH AMERICA), a biennial conference, began in 1965, rotating around the US (IPAC'15 celebrated 50 years of accelerator conferences)

IPAC History II



- 2010 saw the 1st joint IPAC in Kyoto (Japan), followed by:
- 2011 in San Sebastian (Spain)
- 2012 in New Orleans (USA)
- 2013 in Shanghai (China)
- 2014 in Dresden (Germany)
- 2015 in Richmond (USA)
- 2016 in Busan (South Korea)
- 2017 in Copenhagen (Denmark)
- 2018 in Vancouver (Canada)
- 2019 in Melbourne (Australia)
- 2020 in Caen (France)

The European Spallation Source (ESS)

- What is ESS and what might it mean for the future of science, materials, and mankind?
 - Simply put, ESS is:

$$\begin{aligned}
 \mathcal{L}_{GWS} = & \sum_f (\bar{\Psi}_f (i\gamma^\mu \partial_\mu - m_f) \Psi_f - eQ_f \bar{\Psi}_f \gamma^\mu \Psi_f A_\mu) + \\
 & + \frac{g}{\sqrt{2}} \sum_i (\bar{a}_L^i \gamma^\mu b_L^i W_\mu^+ + \bar{b}_L^i \gamma^\mu a_L^i W_\mu^-) + \frac{g}{2c_w} \sum_f \bar{\Psi}_f \gamma^\mu (I_f^3 - 2s_w^2 Q_f - I_f^3 \gamma_5) \Psi_f Z_\mu + \\
 & - \frac{1}{4} |\partial_\mu A_\nu - \partial_\nu A_\mu - ie(W_\mu^- W_\nu^+ - W_\mu^+ W_\nu^-)|^2 - \frac{1}{2} |\partial_\mu W_\nu^+ - \partial_\nu W_\mu^+ + \\
 & - ie(W_\mu^+ A_\nu - W_\nu^+ A_\mu) + ig' c_w (W_\mu^+ Z_\nu - W_\nu^+ Z_\mu)|^2 + \\
 & - \frac{1}{4} |\partial_\mu Z_\nu - \partial_\nu Z_\mu + ig' c_w (W_\mu^- W_\nu^+ - W_\mu^+ W_\nu^-)|^2 + \\
 & - \frac{1}{2} M_\eta^2 \eta^2 - \frac{g M_\eta^2}{8 M_W} \eta^3 - \frac{g'^2 M_\eta^2}{32 M_W} \eta^4 + |M_W W_\mu^+ + \frac{g}{2} \eta W_\mu^+|^2 + \\
 & + \frac{1}{2} |\partial_\mu \eta + i M_Z Z_\mu + \frac{ig}{2c_w} \eta Z_\mu|^2 - \sum_f \frac{g}{2} \frac{m_f}{M_W} \bar{\Psi}_f \Psi_f \eta
 \end{aligned}$$

The European Spallation Source (ESS)

“The European Spallation Source (ESS) is a multi-disciplinary research centre based on the world’s most powerful neutron source. This new facility will be up to 100 times brighter than today's leading facilities, enabling new opportunities for researchers in the fields of life sciences, energy, environmental technology, cultural heritage and fundamental physics.”

Source: <https://europeanspallationsource.se/>

Some visions for ESS neutron and light source science

- High temperature super-conducting materials
- Hydrogen storage substrate
- Efficient membrane for fuel cells
- Flexible and highly efficient solar cells
- Understanding liquid membranes
- Nano scaled structures for controlled drug release
- Self healing materials – smart materials
- Spintronics – Spin-state as a storage of data (10^{23} gain in capacity)
- CO₂ sequestration
- Neutron electric dipole moment
- Neutron oscillations
- And much more...

What is IPAC?

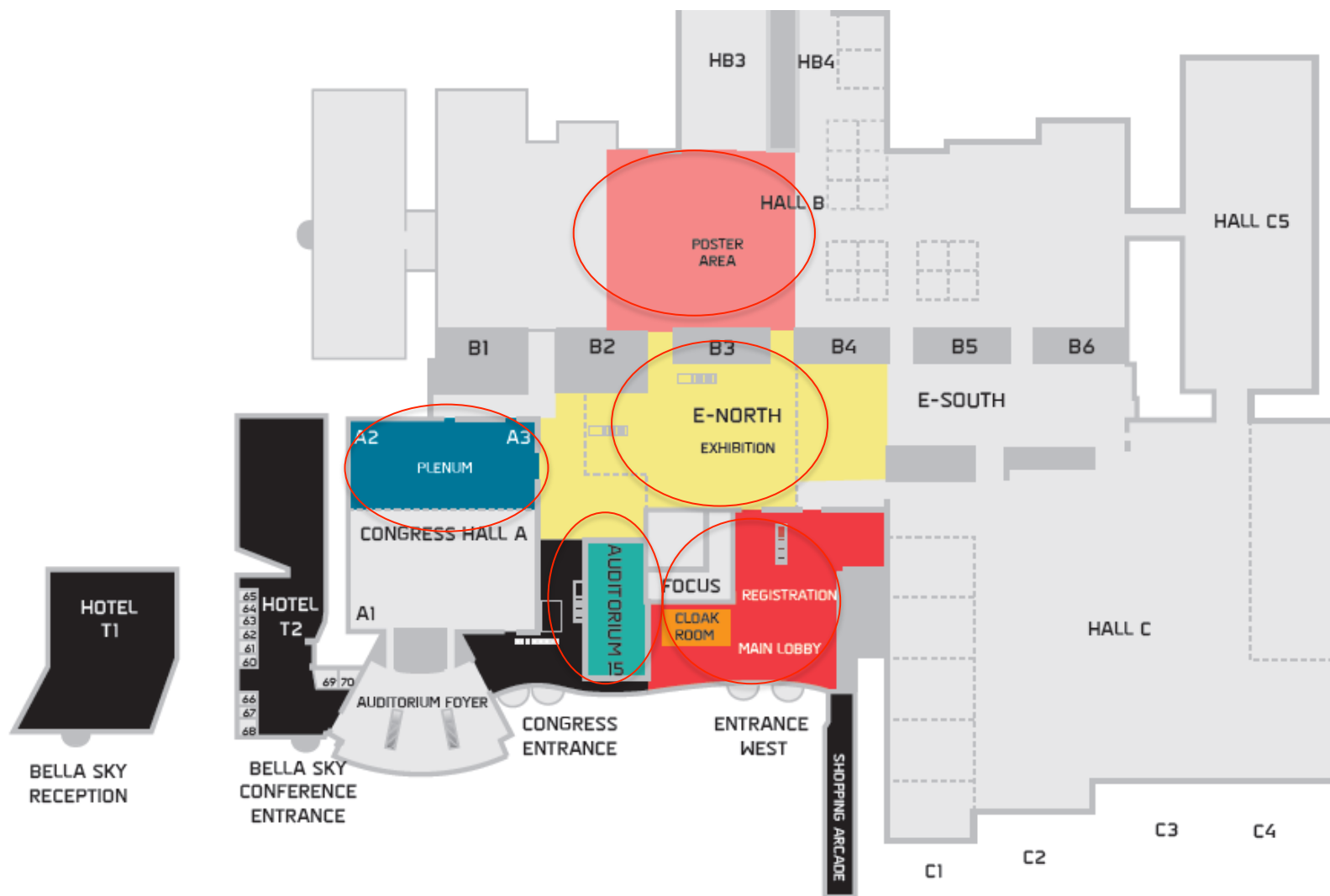


- A highly unique spirit and ethos among scientific conferences
 - International in scope
 - Great representation of young talent
- 4 years in advance, through a highly competitive and rigorous vetting and voting process, a laboratory is chosen to host the future IPAC. In 2013 it was decided that ESS should host IPAC'17.

IPAC Venue



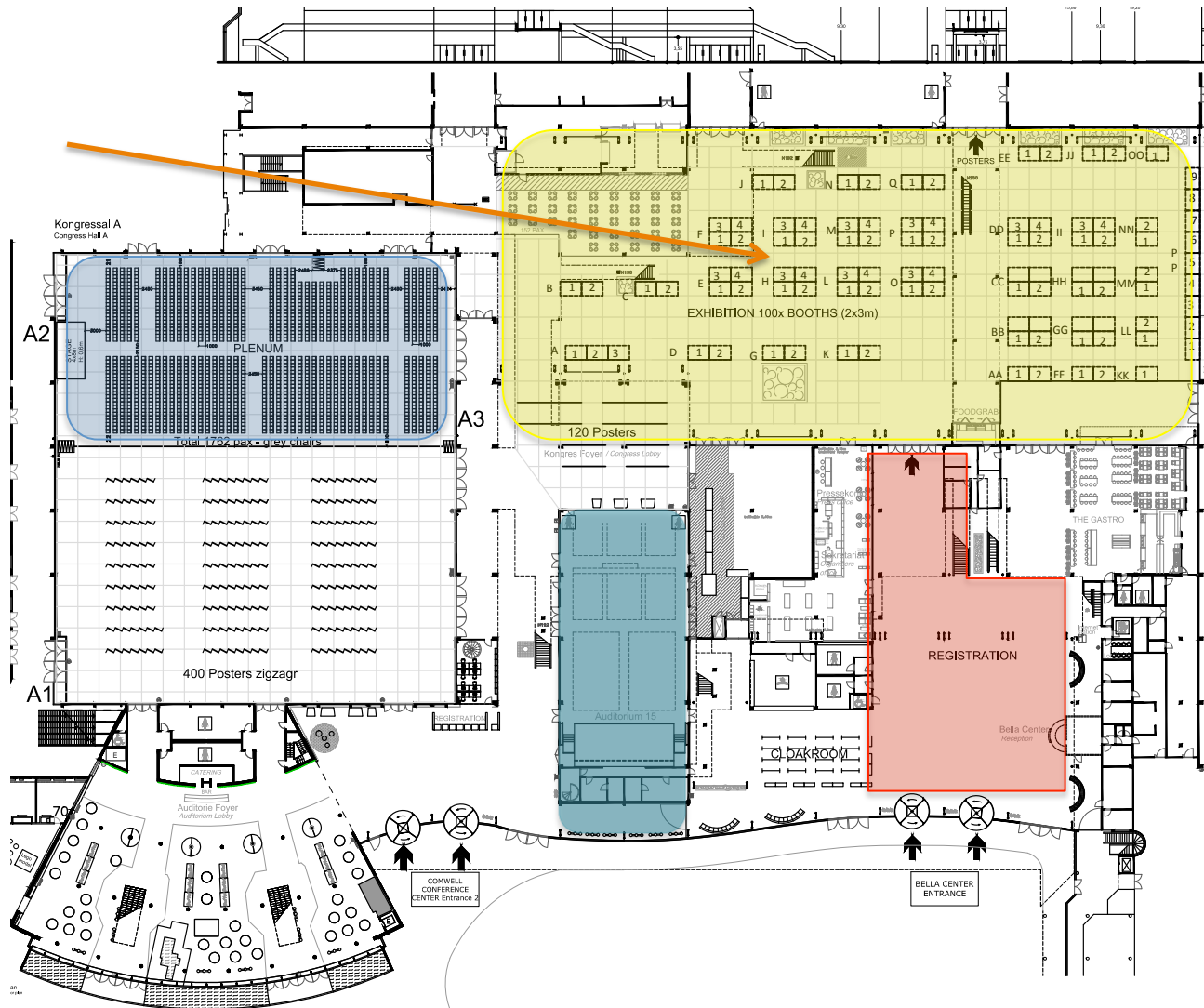
Floor Plan



IPAC Venue – Exhibitor Hall



Booth Plan



Conference Highlights



	SUN 14 May	MON 15 May	TUE 16 May	WED 17 May	THU 18 May	FRI 19 May
9:00 A.M. - 12:30 P.M.		Opening Plenary Session	Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions, Plenary and Closing
2:00 - 4:00 P.M.	Student Poster Session & Public Lecture	Parallel Sessions	Session on Industry	Parallel Sessions	Awards/ Entertainment Lecture	Technical Tours to ESS & MAXIV
4:00 - 6:00 P.M.	Student Poster Session Judging	Poster Session	Poster Session	Poster Session	Poster Session	
after 6:00 P.M.	Exhibition & Welcome Reception (until 8 pm)		Conference Reception (until 9 pm)		19:30 - 22:30 Banquet	
	INDUSTRY EXHIBITION					

Session on Industry



- 1. Industry as a Career Path** (Bjarne Roger Nielsen (Danfysik))
- 2. An Exploration of Proton and Electron Accelerator Business Opportunities With Invited Speakers** (Robert W. Hamm (R&M Technical Enterprises Inc.))
- 3. Open Source vs Closed Source IP and How the Two Relate to the Business of Particle Accelerators** (David Mazur (CERN))
- 4. A Fireside Talk with top-billed speakers** (moderated by Mats Lindroos (ESS))

Reception on 16th May



- DOCKEN (<http://www.docken.dk>)
- “Raw Elegance” in Copenhagen’s North Harbour
- Former salt warehouse, directly to the Sound with a view of the sunset over Hellerup and Ven
- Shuttle busses will go straight from BC to the venue and return via city center (incl. a few sights)



Banquet on 17th May at Øksnehallen



Sponsorship Opportunities



- Welcome and conference reception
- Bus transfers to and from conference reception
- Entertainment for reception and/or dinner
- Mobile App
- LEGO model of ESS
- Coffee breaks
- Custom booths which may highlight your delegation
- ePosters
- And much more! So please call Rob Yarbray at +1-571-332-0337 (GMT -5:00) or via email at ipac17_industry@esss.se to discuss options and any ideas you may have.
- See also <https://ipac17.org/industry-exhibition-support>