

european society for precision engineering and nanotechnology

**22<sup>nd</sup> International Conference & Exhibition**  
**Tuesday 31<sup>st</sup> May 2022**  
**Hilton Geneva Conference Hotel, Geneva,**  
**Switzerland**

# Euspen 22<sup>nd</sup> Conference

- The 20<sup>th</sup> **euspen** conference was planned to be held in Geneva and CERN, but became “virtual” due to Covid’19 pandemic and associated travel restrictions
- After 2 difficult years, we are (nearly) back to normal conditions
- The 22<sup>nd</sup> conference will be hybrid, with xx persons present in Geneva and xx persons who will follow remotely.



# Euspen 22<sup>nd</sup> Conference

## Geneva

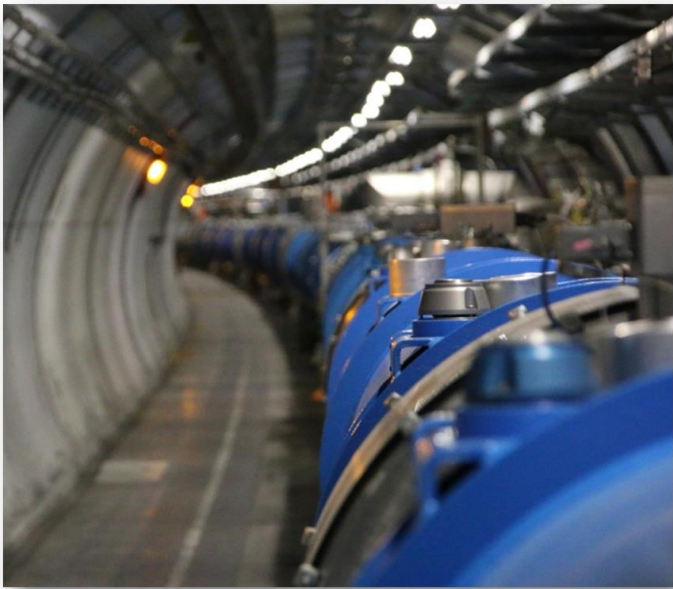
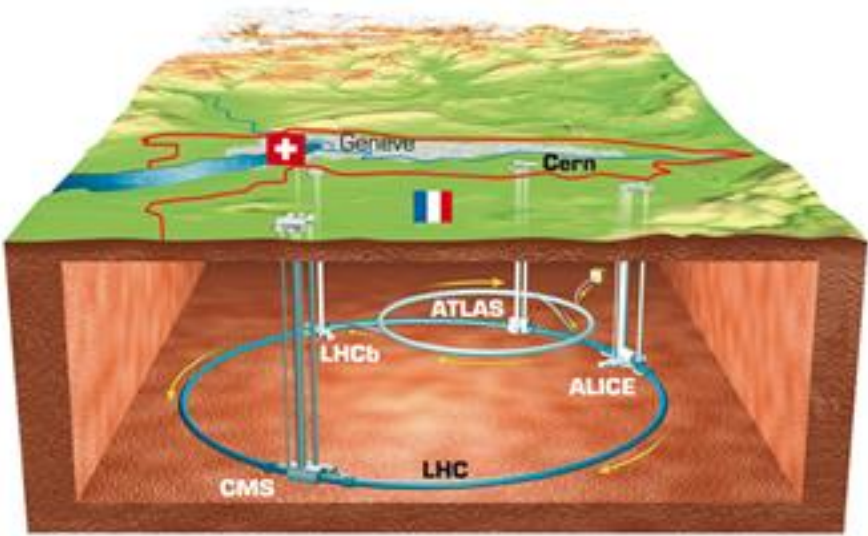




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# Euspen 22<sup>nd</sup> Conference

## CERN



## euspen 22<sup>nd</sup> International Conference & Exhibition

This is our first post-Covid international conference and very happy to see so many delegates in-person

- 315 Delegates (in-person and virtual)
- 29 Exhibiting organisations
- 4 Tutorials & Workshops (Monday)
- 4 Keynotes
- 29 Oral presentations
- 124 Posters
- 4 Guided & Technical tours of CERN

Sponsors: ASML, JOHANNES HEIDENHAIN GMBH, Huber, Moore Nanotech, PRECITECH AMETEK, Professional Instruments, Renishaw, ZEISS



## Sessions & Themes

- Advances in Precision Design, Precision Engineering & Nanotechnologies
- Mechatronics, Sensors & AI
- Non-mechanical Manufacturing Processes
- Large Scale Precision Engineering
- Metrology
- Mechanical Manufacturing Processes



**Dr. Rhodri Jones**

Head of Beams Department, CERN, CH

**Present and future CERN projects and their associated engineering challenges**

**Dr. Begoña Vila**

US Systems Engineer, NASA GSFC/KBR

**The James Webb Space Telescope: On Orbit Commissioning to Ensure Readiness for Science Operations**



**Dr. Thomas Sesselmann**

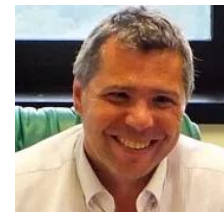
DR. JOHANNES HEIDENHAIN GmbH, DE

**Geneva's Special Contribution to Precision Manufacturing and Metrology in Europe: A Historical Perspective**

**Prof. Darwin Caldwell**

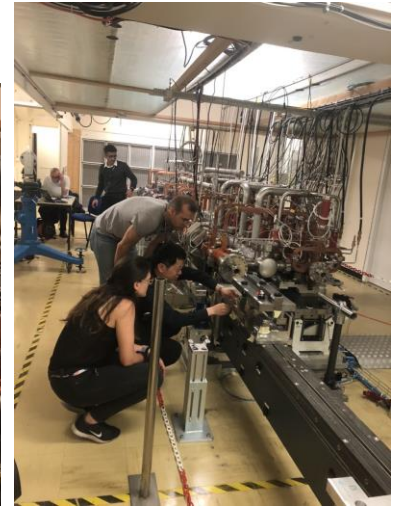
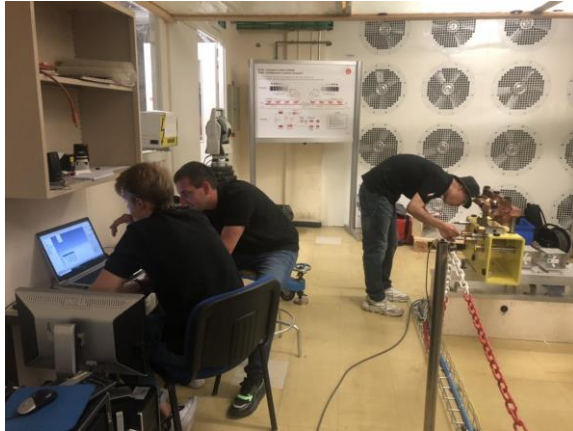
Italian Institute of Technology (IIT), IT

**Robotics, AI and assistive technologies for precision medicine**



# Young Engineers

We are continuing with supporting young engineers within the Society  
Third year running the euspen **talent programme**,



continuing to provide student scholarships and incorporating **a student networking and recruitment** event for tomorrow evening



# There is a climate crisis THERE'S NO PRETENDING!



# What can precision engineering offer to enable real solutions?

## We can offer a lot!



Paradigm shifts in engineering for transport

Sustainable energy generation systems,

Step change efficiency gains of mechanical systems

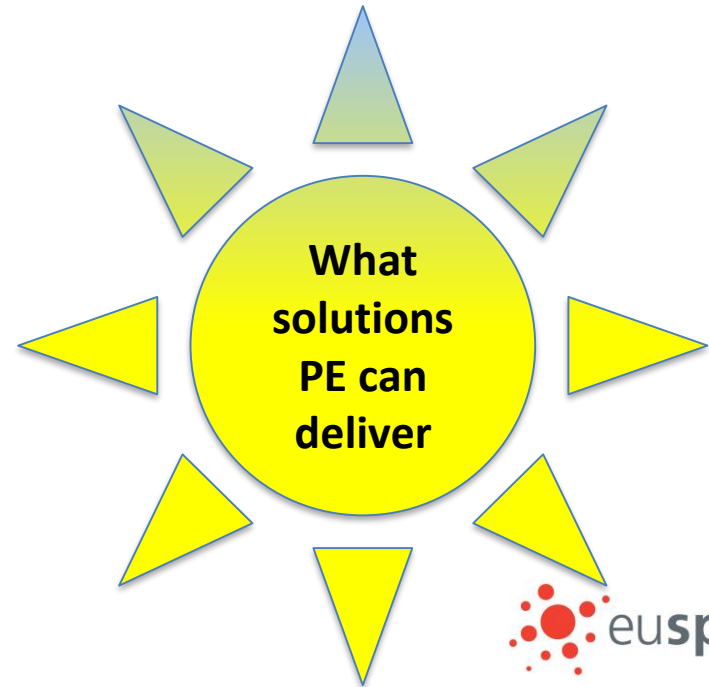
Even environmental restoration

## Special Interest Group Meeting PE for Sustainable Energy systems (Biennial)

We want our young passionate members to take on this task.  
Under EUSPEN guidance we want you to volunteer organize the SIG

invite &  
persuade key  
leading  
speakers

pose the  
right  
questions





Co-funded by the  
Erasmus+ Programme  
of the European Union



- Project partners: DSPE (NL), DGaO (DE), KU Leuven (BE), Technical University of Denmark (DK), University of Huddersfield (UK), University of Padova (IT)
- Project name: PREFAM - European framework for continuous professional development in precision engineering for advanced manufacturing
- Project timescale: September 2019 – August 2022. **We have approached the agency to request an extension (4 months) to complete some in-person activities due to the impact of COVID**

Thank you to everyone who is joining us physically and virtually.  
Please enjoy the conference and Geneva!

And now... a few words from the founder of euspen  
Prof. Pat McKeown



A few words from...  
euspen's Founding Father  
Prof. Pat McKeown



*Dear Friends and Colleagues,*

*As the Founding President of our remarkable organisation, I, like you, have been looking forward with great pleasure to our 22nd International Conference and Exhibition, especially as it is based at CERN.....but I greatly regret that I am not able to be with you for health reasons.....but send you my warmest greetings for a most rewarding and enjoyable time together in Geneva.*

*I look back, briefly, to how it all started: In 1994 the CIRP General Assembly was held in Singapore where Professor Manfred Weck (Aachen), Dr Horst Kunzmann (PTB) Professor John Corbett ( Cranfield ) and I ,got together in the lunch queue where we discussed whether we should form a **european** precision engineering society.....Japan had JSPE and the USA had ASPE where I had been able to help in its initial funding [via the USA Office of Naval Research ] and its formation based on the International Precision Engineering Seminars [run by Cranfield from 1981 in the UK the USA and Switzerland ]. We agreed to follow up. It emerged that Aachen had decided to run its own PE conferences but every alternate year to the IPES series....this helped mutual collaboration.*

*We contacted the European Commission in Brussels and visited for guidance on the procedures for applying for start-up finance etc. It turned out that I knew the senior manager of the appropriate department ....who made it very clear that that would not influence their decision in any way.....and added "by the way, remaining funds for this year are very limited" After some further discussion he suggested that we should consider adding "nanotechnology" to the title ....this was done in a flash ! He went on to suggest that it might be more fruitful to use a hitherto unused funding application route, a Concerted Action Proposal which was not tied to any invited established project but which demanded letters of committed support from many EU companies....we quickly agreed.*

# Prof. Pat McKeown

*It was then that we agreed to establish a **euspen** Foundation Committee whilst we invited and received project supporting letters from some 80 companies, a task led with enthusiasm by Professor John Corbett and Prof. Marc Bonis of the University of Compiègne, France. After a few months we were delighted to hear that our submission had been successful which enabled us to go ahead with running our first international meeting at Bremen in May 1989 where Professor Ekkard Brinksmeier and colleagues were able to combine this with the opening of their fine new precision engineering laboratory....and playing a major role in the overall structuring and publicity of this successful event.*

*Many members \*\*\* of the Foundation Committee went on to serve **euspen** as President, a commitment of six years .....Vice President, President and Past President ...and with skill, dedication and enthusiasm, well supported by Dr Deborah Corker, Dr Theresa Burke, David Billington and now, Dishi Phillips .....as Chief Executives*

*\*\*\* Manfred Weck, Kim Caneiro, Paul Atherton, Ekkard Brinksmeier, Hendrick Van Brussel, Henny Spaan....to mention only a few I suggest we express our gratitude and admiration to them and their successors for their invaluable contributions, by a round of applause.  
Pat McKeown Founding President of **euspen***

Professor em Patrick McKeown OBE FREng FCIRP FIMechE FSME(USA) HonDSc HonDSc