

A banner image for the TPF23 conference. It features a central vertical beam of light with a top quark symbol at the top and a bottom quark symbol at the bottom. The background is dark with blue and red glowing patterns. The text 'TPF23' is in the bottom left, '3rd TOP at the Precision Frontier' is below it, and 'Purdue University 1-3rd October, WL, USA' is in the bottom right.

TPF23

3rd TOP at the Precision Frontier

Purdue University
1-3rd October, WL, USA

Welcome to Purdue U

TPF23 – Oct 2nd 2023

The midwest: Indiana & Purdue

- About 200km south of Chicago
- Endless corn fields, magnificent Lake Michigan
- Blizzards & Tornados



Purdue University:

- 42,000 students
- Public University
- Physics saw largest growth during Manhattan project



- Mascot “Purdue Pete”
- “Boilermakers”

Cradle of the Astronauts

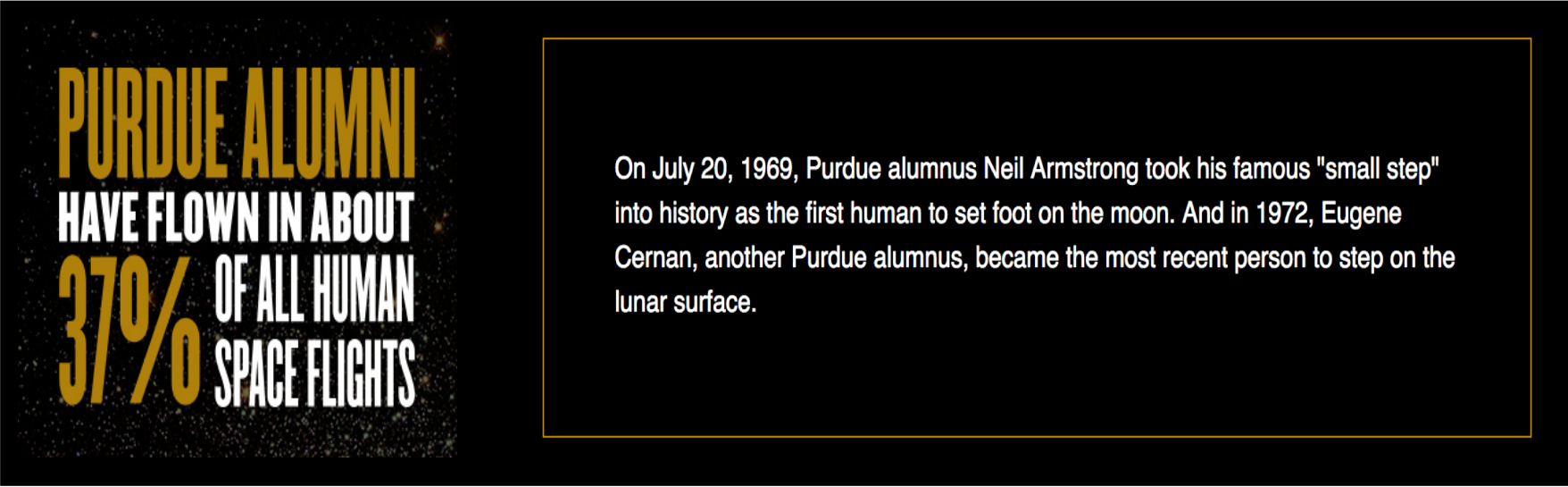


PURDUE IN SPACE

- 50 year anniversary Apollo mission
- Honoring Sully (“Miracle on the Hudson”), Purdue alumni

<https://youtu.be/c8SN92zF2Gw>

<https://youtu.be/ngYo-y9SAOM>



PURDUE ALUMNI
HAVE FLOWN IN ABOUT
37% OF ALL HUMAN
SPACE FLIGHTS

On July 20, 1969, Purdue alumnus Neil Armstrong took his famous "small step" into history as the first human to set foot on the moon. And in 1972, Eugene Cernan, another Purdue alumnus, became the most recent person to step on the lunar surface.

Top Quark Physics at the Precision Frontier

TPF23

3rd TOP at the Precision Frontier

Purdue University
1-3rd October, WL, USA

MONDAY, 2 OCTOBER	
08:30 → 10:00	Introduction/Summary: Opening & key notes Stewart Center
08:30	Welcome by Purdue University Head of the Department of Physics & Astronomy Speaker: Prof. Gabor Csathy (Purdue University) 10m
08:45	Introduction & local welcome Includes Announcements - Practical information 10m
09:00	Keynote: Quantum Entanglement: from foundations to precision Speaker: Juan Antonio Aguilar Saavedra (Consejo Superior de Investigaciones Científicas (CSIC) (ES)) 45m
tangle.pdf	
10:00 → 10:30	Coffee Break 30m Stewart Center
10:30 → 12:00	Theoretical Aspects: Part 0 Stewart Center
10:30	Working Title: Short review talk on entanglement in QFT (bi-partite or multipartite) Speaker: Nima Lashkari (Purdue University) 20m
11:00	Testing quantum mechanics and beyond Speaker: Pawel Horodecki (Gdansk University of Technology) 20m
11:30	Quantum steering and discord Speaker: Yoav Afek (University of Chicago (US)) 30m
12:00 → 13:30	Lunch break 1h 30m Stewart Center
13:30 → 15:00	Experimental Aspects: ATLAS & CMS Stewart Center
13:30	New foundational experiments with quantum process tomography Speaker: Michal Eckstein 30m
14:10	Working Title: ATLAS perspective on Entanglement Speaker: Dr James William Howarth (University of Glasgow (GB)) 30m
15:00 → 15:20	Coffee Break 20m Stewart Center
15:30 → 15:50	Group Photo 20m Stewart Center
Meet in front of Purdue U signage outside (Weather permitting)	
15:50 → 17:30	Experimental Aspects: Other Probes: Part I Stewart Center
15:50	Working title: Entanglement in nuclear collisions Speakers: Prof. James Brandenburg (Ohio State University), James Daniel Brandenburg (University of Florida (US)) 30m
16:30	Exploring quantum foundations with gauge bosons Speakers: Alan Barr (University of Oxford (GB)), Alan Barr (University of Oxford (GB)) 20m
Top2023_Exploring...	
17:00	A study of entanglement in $e^+e^- \rightarrow B\bar{B}$ events at Belle Speakers: Bruce Donald Yabsley (University of Sydney (AU)), Bruce Yabsley (University of Sydney) 30m
19:00 → 21:00	Social events: Conference Dinner Stewart Center
Convener: Andreas Werner Jung (Purdue University (US))	
19:00	Dinner at Bruno's 2h
http://brunodough.com/history	

TUESDAY, 3 OCTOBER	
09:00 → 09:10	Break: Announcements Stewart Center
09:10 → 10:30	Theoretical Aspects: Theoretical Aspects - Part I Stewart Center
09:10	Theoretical predictions for top-pair and t+X production Speaker: Nikolaos Kidonakis 30m
09:50	Parton showers and matching for top physics Speaker: Stefan Hoeche (Fermilab) 30m
10:30 → 10:50	Coffee Break 20m Stewart Center
10:50 → 12:30	Experimental Aspects: Future Prospects Stewart Center
10:50	Extending the LHC reach through precision QCD at the EIC Speaker: Dr TIMOTHY J HOBBS (Argonne National Laboratory) 30m
11:25	Working Title: Future Colliders Speaker: Anadi Canepa (Fermi National Accelerator Lab. (US)) 25m
11:55	Working Title: Future e^+e^- machines & detector design and impact on top precision results Speakers: Marc-Andre Pleier (Brookhaven National Laboratory (US)), Marc-Andre Pleier, Marc-Andre Pleier (Brookhaven National Laboratory (US)) 25m
12:30 → 13:50	Lunch break 1h 20m Stewart Center
13:50 → 15:35	Experimental Aspects: Quantum Information Science Stewart Center
13:50	Prospects for BSM physics with quantum tomography Speaker: Claudio Severi (Universita e INFN, Bologna (IT)) 20m
14:15	Working title: QIS for particle Physics Speaker: Prasanth Shyamsundar (Fermi National Accelerator Laboratory) 30m
14:50	Quantum Annealing applications in Collider HEP-ex Speaker: Dr Souvik Das (Purdue University (US)) 30m
TopAIPrecision_Das...	
15:35 → 16:00	Coffee Break 25m Stewart Center
16:00 → 16:30	Techniques: Latest Developments in ML/AI Stewart Center
16:00	TBD: Recent developments in ML/AI with top physics focus 20m
16:30 → 17:05	Closing session: Closing Remarks Stewart Center
16:30	Feedback Comments 15m
...on this years iteration of the workshop	
Speaker: Andreas Werner Jung (Purdue University (US))	
16:45	Future of TPF - next years edition 20m
Open discussion	
17:20 → 18:50	Tours: Tours at Purdue University Stewart Center
17:20	Tours of Silicon Lab & Composite Center 1h
For those interested and in the area until Wednesday: we will organize tours of the silicon Lab on 3rd floor of Physics (Silicon pixel module assembly) and of the Composite Center (https://www.purdue.edu/cmcc/) on Kalberrer Rd (Carbon Fiber Structures for HL-LHC and future colliders).	
Speakers: Andreas Werner Jung (Purdue University (US)), Sushrut Rajendra Karmarkar (Purdue University (US))	

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Please check the agenda regularly – quite a few last minute changes!

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A banner image for the TPF23 conference. It features a central vertical axis with a bright yellow and orange glow, flanked by blue and purple light trails. The background is dark with a grid of red lines. Text is overlaid on the image.

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- Quite a few last minute adjustments...
- Coffee breaks in other room 214 CD
- All talks here in 214 AB
- Lunches provided
- Dinner tonight at 7pm at Bruno's
 - <http://brunodough.com/history>
- Optional tours tomorrow afternoon of the composite center & silicon clean rooms in Physics in case you are interested