

Stanford Center for **Position, Navigation and Time**





15th Annual PNT Symposium • October 27-28, 2021 • Webinar

Hosts

- **■** Leo Hollberg
- **Tom Langenstein**
- Sherman Lo
- Brad Parkinson
- Todd Walter

Schedule

Invited Presentations Only

- Wednesday, October 27 8:00am - 12:00 noon, PDT
- Thursday, October 28 8:00am - 12:00 noon, PDT

Sponsors





CIA Research LABS.

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Invited Speakers

- Penina Axelrad Tracking Clustered CubeSat Deployments
- > John Burke Atomic Frequency References and Sensor
- > Todd Ely Deep Space Atomic Clock (DSAC)
- > Eric Frew Control and Navigation of Unmanned Aircraft in Complex Atmospheric Phenomena
- > Andrew Hansen Complementary PNT Evaluation
- > Gabriella Harari Using Location Data for Mental Health
- > Tonya Ladwig The Future of Assured PNT
- ➤ **Guttorn Opshaug** Navigating using 5G
- > Brad Parkinson Toughening PNT
- > Wouter Pelgrum Navigating to Space and Back at Blue Origin
- Mac Schwager Robots that Work Together, Robots that Play Together

Attendance is Free, but RSVP is Required



Stanford's 2021 PNT Symposium - Invited Speakers October 27th & 28th - Virtually from Stanford

	October 21th & 20th - Virtually Nom Otalilord					
	~ Start Time	~mins	Invited Speaker	Affilation	Title of Presentation	
Wednesday 10/27		Introductions				
1	8:00am	15	Walter, Todd & Lo, Sherman	Stanford University	Welome Comments & Announcements	
2	8:15am	60	Parkinson, Brad	Stanford University, Emeritus	Toughen	
3	9:15am	30	Hansen, Andrew	Department of Transportation, Volpe	Complementary PNT Evaluation	
4	9:45am	30	Ladwig, Tonya	Lockheed Martin	The Future of Assured PNT	
	10:15am	15	Extra Question Time + Morning Break			
5	10:30am	30	Opshaug, Guttorm	Qualcomm	Navigating using 5G	
6	11:00am	30	Schwager, Mac	Stanford University	Robots that Work Together, Robots that Play Together	
7	11:30am	30	Axelrad, Penina	Univ. of Colorado & NIST	Tracking Clustered CubeSat Deployments	
	12:00 noon		End Day 1			
Thursday 10/28		Reconvene				
8	8:00am	30				
9	8:30am	30	Harari, Gabriella	Stanford University	Using Location data for Mental Health	
10	9:00am	30	Frew, Eric	University of Colorado, Boulder	Control and Navigation of Unmanned Aircraft in Complex Atmospheric Phenomena	
	9:30am 15		Extra Question Time + Morning Break			
11	9:45am	30	Burke, John	DARPA	Atomic frequency references and sensor	
12	10:15am	30	Ely, Todd	NASA JPL	Deep Space Atomic Clock (DSAC)	
13	10:45am	30	Pelgrum, Wouter	Blue Origin	Navigating to Space and Back at Blue Origin	
	11:15pm		Extra Question Time & Conclusion of Symposium			