

Wireless for AI (W4AI)

Making AI applications wireless-native — and redesigning wireless to carry AI-based services

The first STAIRWAI workshop asked how AI can improve wireless systems. This one turns the question around: if AI applications become the dominant traffic and the dominant workload, what do wireless networks — and the testbeds we prototype them on — have to become?

DATE	VENUE	ATTENDANCE
Friday, 18 September 2026 8:30 AM – 4:40 PM	WINLAB, Rutgers University 671 Route 1 South, North Brunswick, NJ 08902	In person Free · Register: eventbrite.com/e/1998936130777 · breakfast and lunch provided

DRAFT PROGRAM

8:30 – 9:00	Registration, light breakfast, poster set-up
9:00 – 9:10	Welcoming remarks Narayan Mandayam, Director, WINLAB
9:10 – 10:00	Keynote 1 — the vendor and operator view Mikael Prytz, Ericsson
10:00 – 11:10	Poster session and coffee Student, postdoc and industry posters — open call below
11:10 – 12:00	Keynote 2 — AI Glasses: Building Technology for Human Connection Arpit Mehta, Meta
12:00 – 1:20	Lunch
1:20 – 2:10	Keynote 3 — AI in the field, over real networks Ranveer Chandra, Microsoft — agriculture as the proving ground for wireless-native AI, and the prototyping infrastructure it demands
2:10 – 3:00	Keynote 4 — Building Trust in Industrial AI at the Wireless Edge Charif Mahmoudi, Siemens
3:00 – 3:10	Framing the breakouts Jorge Ortiz, Rutgers — what we want the breakouts to produce
3:10 – 4:20	Parallel breakouts and coffee A. Wireless-native AI: split inference, distributed and over-the-air learning, latency budgets · B. Verticals: what AgTech, manufacturing and XR actually need from the network · C. What makes a testbed AI-ready: datasets, benchmarks, reproducibility, tooling
4:20 – 4:40	Summary, priorities, and the road to a full center proposal Closing remarks — Jorge Ortiz, Rutgers

ABOUT STAIRWAI

STAIRWAI to COSMOS — *Sensor-enabled Testbed for Advancing Innovative Research in Wireless+AI* — is an NSF planning grant under the AI-Ready Test Beds program. Its job is to work out, with the research community, what a full center on Wireless and AI should build first: streamlined dataset collection, shared benchmarks, a framework for deploying and evaluating wireless-aware AI, and infrastructure for real-time acceleration at the edge.

The first workshop, **AI4W**, ran at WINLAB on 30 January 2026 with speakers from Ericsson, NVIDIA, AT&T and Qualcomm.

VERTICALS IN FOCUS

- **Agriculture and the outdoor edge** — intermittent connectivity, energy budgets, inference where backhaul is not an option.
- **Advanced manufacturing** — deterministic latency, closed-loop control, what a private network owes an AI controller.
- **XR, wearables and AR glasses** — splitting computation between a device that cannot get hot and an edge that cannot be far away.
- **Smart streetscapes and mobility** — multimodal street-level sensing, with the COSMOS West Harlem deployment as the live setting.

Call for posters and demos

The poster session is the heart of the morning and is open to students, postdocs and industry researchers. Send a title, authors and a short abstract to reserve a board — easels and posterboards are provided. Demos are welcome; tell us what you need and we will find you a table, power and spectrum. Registration is free but required, for catering and building access.

Arriving Thursday? The **COSMOS³ Community Workshop on Next-Generation Testbed Capabilities** runs the afternoon before — Thursday 17 September, 12:00–5:00 PM, same venue — FR3, the digital twin and street-level sensing, followed by a joint reception and an optional off-site dinner. Register: eventbrite.com/e/1998936074609