

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 — Evolution towards 6G: Wireless for AI 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 <i>AI-ready</i> : 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.

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

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.

Organizing committee — Anand D. Sarwate (PI, Rutgers), Jorge Ortiz (Rutgers), Bo Yuan (Rutgers), Yingying Chen (Rutgers), Ivan Seskar (Rutgers/WINLAB), Narayan Mandayam (Director, WINLAB). Coordination: Taqiya Ehsan (Rutgers).

Registration, posters and questions: winlab.rutgers.edu · climbing-the-stairwai-to-cosmos.ghost.io

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