

**Call for Participation**  
**Second mmW RCN Workshop**  
**NSF Research Coordination Network on Millimeter Wave Wireless**  
**University of Wisconsin-Madison**  
**Madison, WI, July 19-20, 2017**  
<https://mmwrcn.ece.wisc.edu>

Millimeter-wave (mmW) wireless is the focus of intense current research in academia and industry for achieving multi-Gigabit data rates and low latency as part of the emerging vision for 5G wireless networks and beyond. This NSF-sponsored research coordination network (RCN) aims to spur research and development of mmW wireless, driven by innovations in three key areas:

- 1) CSP: communication and signal processing techniques;
- 2) HW: mmW hardware, circuits, antennas, and digital hardware; and
- 3) NET: wireless networking,

along with mmW prototypes and testbeds. The RCN aims to engage academic and industrial researchers as well as stakeholders from the US government agencies to facilitate cross-fertilization of ideas, identification of challenges and strategies to address them, and to guide the development of mmW wireless technology and standards. The RCN is led by the University of Wisconsin and includes a steering committee of sixteen leading researchers in the area of mmW wireless technology from academia and industry, including international representatives.

**Second RCN Workshop:** A key mechanism for interaction between RCN members and participants from the wider mmW research community is through two workshops each year. In the [kickoff workshop](#), the participants took stock of the current state of mmW wireless research and technology, identified the key elements of a technology roadmap, and generated several exciting ideas for cross-disciplinary collaborations (the [workshop report](#) summarizes the key findings). Building on the success of the kickoff, the [second RCN workshop](#) will be held on July 19-20, 2017 on the campus of the University of Wisconsin-Madison. The one-and-half-day workshop [program](#) will include keynotes, poster presentations, demos, panel and breakout discussions on timely topics of relevance to ongoing mmW research and development in academia and industry. Participants from the wider mmW research community are encouraged to attend the workshop.

**Workshop Focus and Themes:** Building on the feedback from the kickoff workshop, this workshop aims to focus on:

- Research ideas and demonstration concepts emphasizing cross-disciplinary approaches, especially across CSP-HW and CSP-NET areas, including new channel measurements and system models.
- Integration of channel models into system-level and network-level design and simulation.
- Efforts on prototype and testbed development (especially lower cost approaches) and demos.
- Research ideas and challenges for mmW wireless at frequencies above 40 GHz (40-300GHz).
- Synergistic approaches from other applications such as imaging and sensing.
- System- and network-level analysis of integrated fixed wireless, backhaul, and access networks.
- “Moonshot” problems to be addressed on a 5-year and 10-year timeframe with active academic-industrial collaboration.

**Participation & White Papers:** Prospective participants are invited to submit a one-page white paper outlining their research plans and demonstration concepts relevant to mmW wireless, including a brief description of their background in the area. The authors are encouraged to consult the [report](#) from the

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[kickoff](#) as well as the [posters](#) presented. Discussions relevant to the themes noted above are welcome. The white papers (pdf) should be emailed to [mmwrcn@ece.wisc.edu](mailto:mmwrcn@ece.wisc.edu). Postdoctoral and early-career researchers as well as researchers from under-represented groups are strongly encouraged. Limited funding is available to support the travel cost for academic researchers, including a few international participants, for selected white papers. Please indicate in your white paper if you will be unable to attend without travel support. Accepted white papers will be presented as posters/demos at the workshop. Attendees without white papers, especially from industry, are actively encouraged to attend, subject to space availability.

**Important Deadlines:**

April 3, 2017: one-page white paper submission

April 17, 2017: notification of white paper selection

May 8, 2017: workshop registration deadline (for accepted white papers)

May 22, 2017: hotel (and air) reservation deadline (for reimbursed attendees)

**Organizers:**

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