



LETTER FROM THE FACULTY LEADERSHIP

Dear Member,

It is with great pleasure that I present to you the inaugural Annual Newsletter of the Princeton NextG Corporate Affiliate Program (CAP), a testament to the successful collaboration between you, your company and Princeton University over the past year. We want to thank you for the vital role that you played in shaping the activities and outcomes of the program, providing industry insight, guidance, and participating in our programmed events and activities.

We launched the Princeton NextG CAP in November 2023, with ambitious plans to provide you and our other Members with meaningful engagements, and creating impactful opportunities for both our Members and the Princeton community. Buoyed by the first year's success, we look to provide you with more opportunities to participate and engage with Princeton faculty and students.

Please review this newsletter for more details of the impact of this past year, and visit the NextG [Members-only portal](#) for exclusive materials and session recordings.

Virtual Kick-Off - RSVP

Join us for our kick-off virtual meeting on November 14th, 2024 at 10AM EST by RSVPing to nextg@princeton.edu to receive the Zoom invitation.

Membership Renewals

Renew your membership in Princeton NextG by emailing nextg@princeton.edu.

Founding Member Companies

We are proud to acknowledge the member organizations that joined us in our inaugural year (in alphabetical order):

American Tower

Crown Castle

Ericsson

Intel

InterDigital

MediaTek

Nokia Bell Labs

Qualcomm

Texas Instruments

Samsung Research America

Vodafone

Program Activities / 2023 – 2024 Recap

Throughout the year, we have focused on delivering you high-value opportunities to engage with faculty, students, and other members. The program's activities are designed to foster discussions around a broad range of next generation wireless communication research, seed new projects and engage with talent development, and we are delighted to report a strong level of participation across the board.

#1. Annual Symposium

The highlight event of our year was the public NextG Annual Symposium (May 1, 2024), which brought together academic leaders, industry experts, and students for a day of knowledge sharing, networking, and idea exchange. The Symposium featured keynote presentations from leading voices in both academia and industry, followed by panel discussions and interactive sessions. This event serves as a cornerstone of the program, providing members with direct access to groundbreaking research and innovation within the academic space.

#2. Leadership Retreat

Our Retreat, exclusive for Leadership Members, allowed senior executives and academic leaders to come together in a more intimate setting to discuss strategic industry trends, explore areas of potential collaboration, and reflect on future challenges. The retreat enabled open dialogue on how we can drive deeper partnerships between academic institutions and industry, identifying areas for impactful cooperation in the coming years.



#3. NextG Faculty Spotlight Series



This past year, we provided you and other Members with exclusive spotlights on the work of some of our NextG faculty, including Vincent Poor, Felix Heide and Yasaman Ghasempour. We kicked off this fall 2024 with spotlights on Maria Apostolaki and Minjie Chen. In the Faculty Spotlights, leading Princeton researchers share their latest work, highlighting cutting-edge advancements in relevant fields and demonstrating the potential for industry-academia collaborations to solve pressing real-world problems. These sessions are hosted virtually, and are only available to our Members and the Princeton community.

The recordings of past Faculty Spotlights are available exclusively on the [Members-Only website portal](#).

#4. NextG Distinguished Seminar Series

The NextG Distinguished Seminar Series features brings speakers to the Princeton University community from around the world to speak on a range of next generation wireless technology topics, including:

- 6G – Enabling a Cyber-Physical Continuum (Magnus Frodigh, Ericsson Research);
- Can Today's 5G Networks Support 5G "Killer Apps"? (Dimitrios Koutsonikolas, Northeastern);
- Wireless, Edge Cloud, Optical, Smart Streetscapes, and International Experimentation (Gil Zussman, Columbia University);;
- Regular Sparse NOMA: Ultimate Performance in Closed Form (Ori Shental, Qualcomm Research);
- 3D millimeter-wave imaging and sensing with Si-based phased arrays, edge computing, and AI (Alberto Valdes-Garcia, IBM Research); and
- Zak-OTFS for the Integration of Sensing and Communication (Robert Calderbank, Duke University).

The recordings of the on-campus seminars are available exclusively on the [Members-Only website portal](#).

#5. Leadership-Directed Research Support

Leadership-level Member companies directed a portion of their fees to directly support research projects being conducted by four NextG Faculty: 1) Kyle Jamieson; 2) Paul Prucnal; 3) Yasaman Ghasempour; and 4) Kaushik Sengupta.

A reminder for Leadership members to contact nextg@princeton.edu to ensure all funds are committed before the applicable deadline.

#6. NextG Innovation Awards (Seed Grants)

The NextG membership fees collected this inaugural year, fueled an internal call for proposals from faculty interested in next generation wireless communications technology projects, and broadened the interest on campus for these technologies. The call had broad appeal with 13 proposals responding from computer science, electrical and computer engineering, and civil and environmental engineering departments.

With input from Leadership-level Members, four groups received funding awards:

- **Niraj K. Jha** (ECE): *Intelligent Sensing-based Multimodal Foundation Models for Edge-Cloud NextG Applications* (\$35,000);
- **Maria Apostolaki** (ECE): *Building Trust in ML-Based Network Applications* (\$35,000);
- **H. Vince Poor** (ECE): *Integrated Sensing and Communication with URLLC Users* (\$35,000).
- **Andrés Monroy-Hernández & Parastoo Abtahi** (CS): *Spatial Computing for All: Bridging Augmented Reality and IOT with End-User Programming Tools* (\$70,000).

#7. Response to NTIA Request for Comments

The program also played an active role in contributing to national discussions on policy. In response to the NTIA Request for Comments on technology-related initiatives, we collected input from Members, which were incorporated into Princeton's response. This effort demonstrated the power of industry-academia collaboration in shaping policy and contributing to important conversations at the federal level.

#8. Student Engagement

Last but not least, recognizing the importance of connecting our Members with emerging talent, we prioritized student engagement throughout the year. This included the development of a **Book of Resumes** from students across labs working on NextG technologies, providing Members direct access to a pool of high-potential candidates for internships and full-time roles. The **Student Poster Session**, held during the Annual Symposium, showcased the innovative research of our students, offering members a unique opportunity to engage with the next generation of researchers and innovators. Additionally, we encourage you and your company to consider taking advantage of bespoke opportunities to organize **local company site visits** to company offices or **coming to campus** to give presentations and interact directly with students.



Program's Growth and Future Opportunities

Looking forward, we are excited about the potential to deepen these engagements and further expand the value of membership. In the upcoming year, we plan to introduce more **networking opportunities** between companies, faculty, and students, and expand our portfolio of events. This includes:

- **Enhanced access to the “Members Only” portal**, where all program activities, updates, and opportunities will continue to be posted.
- **Local site visits** to member companies, providing students a first-hand look at real-world industry environments.
- **New workshops** and **roundtable discussions** with faculty and industry leaders on emerging trends in critical areas like AI, sustainability, and digital transformation.

Kick-Off Date and Membership Renewal

The program's official **kick-off date** for the academic year of 2024/2025 will be on November 14, 2024 at 10AM EST (contact nextg@princeton.edu for Zoom link), to mark the start of the second operational year of Princeton NextG.

As we plan for the year ahead, we want to encourage you to continue your participation in this vibrant program by **renewing your membership** for the upcoming year. Your involvement is key to the program's success, and we are eager to build on the momentum we've created together. To indicate your interest in membership renewal or to discuss new opportunities for engagement, please reach out to nextg@princeton.edu, with a copy to Jessie Skinnider, jskinnider@princeton.edu.

CLOSING REMARKS

In conclusion, we would like to express our sincere gratitude to each of you for your commitment to the inaugural Princeton NextG. Together, we have built a strong foundation, and we look forward to seeing what we will accomplish in the years ahead. Thank you once again for your dedication, and we look forward to our continued collaboration.

Warm regards,



Yasaman Ghasempour



Andrea Goldsmith



Kaushik Sengupta