

# Yonsei - Sydney Virtual Workshop on B5G and 6G

## Challenges and Opportunities of Wireless Communication for the Next 10 Years

Wireless communication plays a key role in enabling the Industry 4.0 systems and technologies that revolutionises the way we live, work, and relate to one another. Jointly organised by **Yonsei University** in South Korea and the **University of Sydney** in Australia and , this virtual workshop brings together researchers across institutions and borders to showcase the most recent research advancement in the relevant areas, explore the challenges and opportunities in B5G and 6G in the next ten years, and discuss how to create synergy in driving the innovation of wireless communication technologies.

The workshop aims to strengthen the strategic partnership between the two universities and promote international collaborations across academic and industrial sectors. It will also support the joint effort in tackling challenges of the United Nations' Sustainable Development Goal 9: Industry, Innovation, and Infrastructure.

The workshop will be beneficial to academics and industry partners who would like to collaborate in wireless communication innovation.

<b>Date:</b>	Wednesday 28 July 2021
<b>Time:</b>	Sydney: 17:30-20:30, Seoul/Tokyo: 16:30-19:30, Hong Kong: 15:30-18:30, Helsinki: 10:30-13:30, Berlin: 9:30-12:30
<b>Venue:</b>	Online
<b>Zoom meeting ID:</b>	823 0944 2457
<b>Meeting URL:</b>	<a href="https://uni-sydney.zoom.us/j/82309442457">https://uni-sydney.zoom.us/j/82309442457</a>
<b>Registration:</b>	<a href="#">Link</a>

Experts from the following institutions will contribute their insights on B5G and 6G development:

- Ministry of Science and ICT, South Korea
- Yonsei University, South Korea
- Tokyo Institute of Technology, Japan
- Kyoto University, Japan
- Aalto University, Finland
- University of Oulu, Finland
- The University of Sydney, Australia
- Deakin University, Australia
- Chinese University of Hong Kong, Hong Kong
- The University of Hong Kong, Hong Kong
- ABB Corporate Research, Sweden
- Technische Universität Dresden, Germany

## Program Schedule

Time	Program
<b>16:30-16:50 Seoul</b> <b>17:30-17:50 Sydney</b>  (10 mins for each presentation, total 20 min)	<b>Welcome and Opening Remarks</b>  Moderator: <b>Prof Seong-Lyun Kim</b> , Head, School of Electrical & Electronic Engineering, Yonsei University, South Korea <ul style="list-style-type: none"> <li> <b>6G R&amp;D Strategies of Korea</b>  <a href="#"><u>Dr Sungho Choi</u></a>, Program Manager for Telecommunications and Radio, Institute of Information &amp; Communications Technology Planning &amp; Evaluation, Ministry of Science and ICT, South Korea             </li> <li> <b>6G: Evolution towards a Super-connected World</b>  <a href="#"><u>Prof Branka Vucetic</u></a>, Director of the Centre for IoT and Telecommunications, School of Electrical and Information Engineering, University of Sydney, Australia             </li> </ul>
<b>16:50-17:25 Seoul</b> <b>17:50-18:25 Sydney</b>  (8 mins for each presentation, total 35 mins)	<b>Session I – Intelligent 6G</b>  Moderator: <b>Prof Yonghui Li</b> , Director International and Director of Wireless Engineering Laboratory, School of Electrical and Information Engineering, University of Sydney, Australia <ol style="list-style-type: none"> <li> <b>Overview of Sydney's wireless research</b>  <a href="#"><u>Prof Yonghui Li</u></a>, Director International and Director of Wireless Engineering Laboratory, School of Electrical and Information Engineering, University of Sydney, Australia             </li> <li> <b>Post-MAC for 6G: Federation and Split in Wireless AI</b>  <a href="#"><u>Prof Seong-Lyun Kim</u></a>, Head, School of Electrical &amp; Electronic Engineering, Faculty of Engineering, Yonsei University, South Korea             </li> <li> <b>Wireless AI for Ultra-Reliable and Low-Latency Communications: From 5G to 6G</b>  <a href="#"><u>Dr Changyang She</u></a>, ARC DECRA Fellow, School of Electrical and Information Engineering, University of Sydney, Australia             </li> <li> <b>6G Intelligent Edge - The Fusion of Communication and Computing</b>  <a href="#"><u>Prof Kaibin Huang</u></a>, Associate Head, Department of Electrical &amp; Electronic Engineering, The University of Hong Kong, Hong Kong (pre-recorded)             </li> </ol>
<b>17:25-18:00 Seoul</b> <b>18:25-19:00 Sydney</b>  (8 mins for each presentation, total 35 mins)	<b>Session II – 6G for Industrial Applications</b>  Moderator: <b>Prof Kwang Soon Kim</b> , School of Electrical & Electronics Engineering, Yonsei University, South Korea

	<p><b>5. Wireless HP: toward the Ethernet-grade wireless for critical control in industrial automation</b>  <a href="#">Dr Zhibo Pang</a>, Senior Principal Scientist at ABB Corporate Research, Sweden</p> <p><b>6. 5G and 6G to realize Super Smart Society</b>  <a href="#">Prof Kei Sakaguchi</a>, Department of Electrical and Electronic Engineering, School of Engineering, Tokyo Institute of Technology, Japan</p> <p><b>7. Private 5G for Cooperative Mobile Robotics</b>  <a href="#">Prof He Chen</a>, Department of Information Engineering, Chinese University of Hong Kong, Hong Kong</p> <p><b>8. 6G-life-Digital transformation and sovereignty of future communication networks</b>  <a href="#">Prof Frank Fitzek</a>, Head of the Deutsche Telekom Chair for Communication Networks Group, Technische Universität Dresden, Germany</p>
<p><b>18:00-18:35 Seoul</b>  <b>19:00-19:35 Sydney</b></p> <p>(8 mins for each presentation, total 35 mins)</p>	<p><b>Session III – 6G Wireless Access and Enabling Technologies</b></p> <p>Moderator: <b>Prof Chan-Byoung Chae</b>, Underwood Distinguished Professor, Director, Intelligence Networking Lab. Head, School of Integrated Technology, Yonsei University, South Korea</p> <p><b>9. Biological Layer for 6G</b>  <a href="#">Prof Chan-Byoung Chae</a>, Underwood Distinguished Professor, Head, School of Integrated Technology, Yonsei University, South Korea</p> <p><b>10. Sensor-assisted Wireless Access for 5G/6G</b>  <a href="#">Prof Koji Yamamoto</a>, Department of Communications and Computer Engineering, Graduate School of Informatics, Kyoto University, Japan</p> <p><b>11. Massive Connectivity for 5G/6G Communications</b>  <a href="#">Dr Mahyar Shirvanimoghaddam</a>, School of Electrical and Information Engineering, University of Sydney, Australia</p> <p><b>12. What do we expect for 6G technologies?</b>  <a href="#">Prof Kwang Soon Kim</a>, School of Electrical &amp; Electronics Engineering, Yonsei University, South Korea</p>
<p><b>18:35 -19:10 Seoul</b>  <b>19:35 -20:10 Sydney</b></p> <p>(8 mins for each presentation, total 35 mins)</p>	<p><b>Session IV – 6G Security</b></p> <p>Moderator: <b>Dr Phee Yeoh</b>, School of Electrical and Information Engineering, University of Sydney, Australia</p> <p><b>13. Wireless Security for 5G/6G Communications Systems</b>  <a href="#">Dr Phee Yeoh</a>, School of Electrical and Information Engineering, University of Sydney, Australia</p>

	<p><b>14. Backscatter based sustainable and privacy preserving MTC for 6G and beyond</b>  <a href="#"><u>Prof Riku Jäntti</u></a>, Professor of Communications Engineering and Head of the Department of Communications and Networking, School of Electrical Engineering, Aalto University, Finland</p> <p><b>15. How 6G Are We: Do Androids Dream of Electric Sheep?</b>  <a href="#"><u>Prof Jinho Choi</u></a> and <a href="#"><u>Dr Jihong Park</u></a>, School of Info Technology, Deakin University, Australia</p> <p><b>16. Extreme Ultra-Reliable and Low-Latency Communication</b>  <a href="#"><u>Prof Mehdi Bennis</u></a>, Centre for Wireless Communications, University of Oulu, Finland (pre-recorded)</p>
<p><b>19:10-19:30 Seoul</b>  <b>20:10-20:30 Sydney</b>  (20 mins)</p>	<p><b>Discussion and Conclusion</b></p> <ul style="list-style-type: none"> <li>• <b>Prof Yonghui Li</b>, Director International and Director of Wireless Engineering Laboratory, School of Electrical and Information Engineering, University of Sydney, Australia</li> <li>• <b>Prof Seong-Lyun Kim</b>, Head, School of Electrical &amp; Electronic Engineering, Faculty of Engineering, Yonsei University, South Korea</li> </ul>

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