

Report for IEEE AESS Distinguished Lectures in November 2023 at Chiba University and University of Kitakyushu, Japan

Hongbo Sun

Dr. Hongbo Sun (Principal Scientist of Institute for Infocomm Research, Agency for Science, Technology and Research, Singapore), was invited by Prof Josaphat Tetuko Sri Sumantyo (Chiba University) and Prof Yamazaki Susumu (University of Kitakyushu) to give three IEEE AESS Distinguished Lectures at Chiba and Kitakyushu, Japan, respectively on 21-22 November 2023.

Agenda:

- Day 1 (19 Nov 2023): Flight from Singapore to Tokyo
- Day 2: (20 Nov 2023): Visit to Chiba University
- Day 3: (21 Nov 2023): 1 Distinguished Lecture at Chiba University, and flight to Kitakyushu
- Day 4 (22 Nov 2023): Visit at Kitakyushu, and 2 Distinguished Lectures at University of Kitakyushu
- Day 5 (23 Nov 2023): Visit at Kitakyushu, and Flight from Kitakyushu to Singapore

Screenshot of Announcement to IEEE AESS Japan Chapter members:

北九州市立大学 山崎進先生: zacky@kitakyu-u.ac.jp
に確認をお願いいたします。

皆様のご参加をお待ちしております。

以上ですが、よろしくお願いいたします。

Dear IEEE Members of Japan Chapter

The IEEE AESS Distinguished Lecture below will be held in Japan.
Let's join and boost your knowledge in Radar Tomographic Imaging.
See you soon!

Lecturer: Prof. Hongbo Sun
Affiliation: Senior Scientist at Institute for Infocomm Research (I2R), Agency for Science, Technology and Research (A*STAR), Singapore

1. IEEE AESS Distinguished Lecture (hybrid) "Radar Tomographic Imaging - Achieving High Resolution with Spatial Diversity"
Date/Time: 21 November 2023 Tuesday, 13:00 to 14:30 JST
Place: 1-33, Yayoi-cho, Inage-ku, Chiba-shi 263-8522, Lecture Room 102, Center for Environmental Remote Sensing (CEReS),
Chiba University
Zoom URL: bit.ly/IEEE_AESS_Radar
Pass: ieee
Contact person: Professor Josaphat Tetuko Sri Sumantyo
email: jtetukoss@faculty.chiba-u.jp
Tel: +81(0)43 290 3840
2. IEEE AESS Distinguished Lecture (offline/in-person) "Radar Tomographic Imaging - Achieving High Resolution with Spatial Diversity"
Date/Time: 22 November 2023, 13:00 to 14:05 JST (In-person, Continuing with the next Lecture 3)
Place: HIBIKINO ODORIVA (2-1 Hibikino, Wakamatsu-ku, Kitakyushu, Fukuoka, Japan)
Contact person: Prof Susumu Yamazaki
email: zacky@kitakyu-u.ac.jp
Tel: +81 (0)93 695 3263
3. IEEE AESS Distinguished Lecture (offline/in-person) "Passive Through-Wall Human Sensing with WiFi Signal"
Date/Time: 22 November 2023, 13:00 to 14:05 JST (In-Person, Continuing from previous Lecture 2)
Place: HIBIKINO ODORIVA (2-1 Hibikino, Wakamatsu-ku, Kitakyushu, Fukuoka, Japan)
Contact person: Prof Susumu Yamazaki
email: zacky@kitakyu-u.ac.jp
Tel: +81 (0)93 695 3263

Tokyo/Japan Sections Jt Chapter, AES10 : <http://www.ieee-jp.org/japanouncil/chapter/aes10/aes.htm>

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Lecture at Chiba University

DL Title:	Radar Tomographic Imaging - Achieving High Resolution with Spatial Diversity
Date/Time:	21 November 2023, 1:00pm – 2:30pm
Venue:	Center for Environmental Remote Sensing (CEReS) Building, Room: 102, Chiba University and in Zoom (Hybrid mode)
Number of Attendees:	16 (in person) and 46 (online) Total: 62
Organization of In-Person Attendees	Chiba University Mitsubishi Electric Corporation Information Technology R&D Center



Chiba University and the entrance of lecture venue

IEEE AESS DISTINGUISHED LECTURE

"Radar Tomographic Imaging Achieving High Resolution with Spatial Diversity"

Prof. Hongbo Sun
Senior Scientist of Institute for Infocomm Research (I2R), Agency for Science, Technology and Research (A*STAR), Singapore

Tuesday, 21st November 2023
13:00 to 14:30 JST

Center for Environmental Remote Sensing (CEReS) Building
Room: 102, Chiba University

URL : bit.ly/IEEE_AESS_Radar
Pass : ieee

Professor Josaphat Tetuko Sri Sumantyo
Telp: +81(0)43 290 3840

ABSTRACT

It is well known that the range resolution of conventional radar is typically limited by the bandwidth of adopted radar waveform, and the cross-range resolution is limited by the radar beamwidth. Synthetic Aperture Radar (SAR) exploits the radar motion to form a long virtual antenna aperture, which can significantly improve the cross-range resolution and make it comparable or equal to the range resolution. However, we should not forget that the potential spatial resolution that radar can achieve could be much better, more precisely, in the order of sub-wavelength. Such radar operating mode is called radar tomography or radar tomographic imaging, which exploits large spatial diversity. Instead of large waveform bandwidth, to achieve high spatial resolution, in this talk, the principle of radar tomographic imaging is introduced and the measurement results in microwave anechoic chamber are presented to demonstrate its superior high spatial resolution. Some examples of radar tomographic techniques in real-world applications are also addressed.

Wide Angle SAR Imaging for Vehicles

Task v Honda Civic

IEEE AESS '23 Distinguished Lecture Series
13 November 2023, Chiba University, Japan

Organized by: Supported by:

Lecture poster



Photo with Prof Josaphat



Opening address by Prof Josaphat



Introduction of IEEE AESS



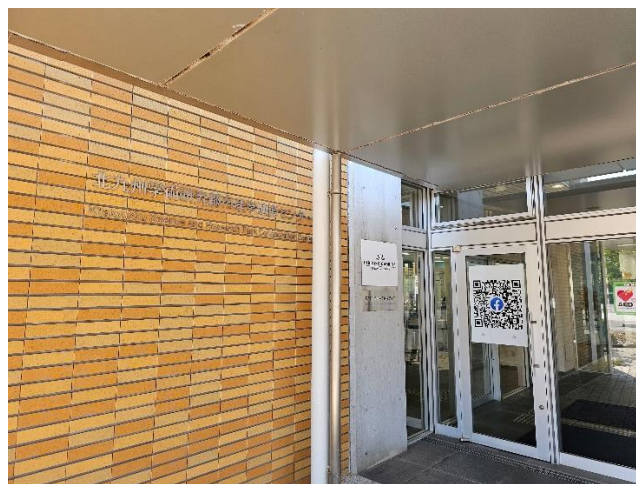
Lecture in progress



Q&A after the lecture

Lecture at University of Kitakyushu

DL Title:	1. Radar Tomographic Imaging - Achieving High Resolution with Spatial Diversity 2. Passive Through-Wall Human Sensing with WiFi	
Date/Time:	22 November 2023, 1:00pm – 3:00pm	
Venue:	Kitakyushu Science and Research Park Collaboration Center	
Number of Attendees:	40 (in person)	
Organization of Attendees	<ul style="list-style-type: none">• University of Kitakyushu• Kyushu Bureau of Economy, Trade and Industry• Fukuoka Prefecture• Kitakyushu City• Kitakyushu Foundation for the Advancement of Industry, Science and Technology• Minsora	<ul style="list-style-type: none">• Dymon Co., Ltd.• Toppan Inc.• Yoshikawa Kogyo Co., Ltd.• Asahi Kokusai Techneion, Co., Ltd.• Kuroki Kougyoujo• Seibu Densetsu



University of Kitakyushu and the entrance of lecture venue



Opening address by Prof Yamazaki



Lecture in progress



Tea Break between the lectures