MiFuture News

Industry news, papers and events related to 6G & MIMO

July 2024

Grant Agreement Number: 101119643
Project Acronym: MiFuture
Project Title: ultra-massive MIMO for future cell-free heterogeneous networks
Call: HORIZON-MSCA-2022-DN-01
Type of action: HORIZON TMA MSCA Doctoral Networks- Industrial Doctorates
Granting authority: European Research Executive Agency
Project start date: 01/01/2024

MiFuture News: Monthly Updates on 6G and MIMO Technologies

MiFuture News is a monthly publication of the MiFuture project, complementing the MiFuture Newsletter, which will be published every six months. While the Newsletter includes internal project updates, MiFuture News features articles and information from external sources freely available on the internet.

This publication aims to gather the most interesting industry news, relevant technical papers, and upcoming events related to 6G and MIMO technologies to share with supervisors and PhD students within the project.

If you come across any interesting news, please share it with us for inclusion in the next issue.

Industry news

MediaTek and Singapore University of Technology and Design (SUTD) sign MoU on 6G Technology Research Collaboration

Jun 26, 2024 - MediaTek announced on 26th June that it has signed a Memorandum of Understanding (MoU) with the Singapore University of Technology and Design (SUTD) for collaboration on 6G technology research. The MoU signing event took place during the 20th anniversary celebration of MediaTek Singapore.

China to push ahead with 5G-A deployments

2024-06-27 - China will step up efforts to commercialize 5G Advanced, or 5G-A, technologies, which will help accelerate the application of artificial intelligence in more sectors and pave the way for identifying key 6G technologies, officials and company executives said on Wednesday.

Tech giants bet next-generation optical networks will reduce AI's climate impact, aid 6G transition

JUN 25 2024 - Some of the world's largest tech firms are backing a new kind of telecoms network which they say will help reduce overall power consumption of data-hungry artificial intelligence applications and accelerate the transition to next-generation 6G mobile internet.

India Joins Forces With Europe in 6G Technology Push

JUNE 24TH, 2024 - India's Bharat 6G Alliance has recently signed a Memorandum of Understanding (MoU) with its European counterpart, the 6G Smart Networks and Services Industry Association (6G IA), and 6G Flagship - Oulu University to explore potential 6G tie-ups. This follows an earlier concluded MoU with the NextG Alliance of the USA, an official statement said.

Japan Spearheads the Future of Connectivity with the Introduction of 6G Technology

2024-05-05 - Japan’s premier telecommunications groups have pioneered a remarkable achievement with the debut of the world’s inaugural high-speed 6G prototype. This cutting-edge device flaunts a transmission capability of a staggering 100 gigabits per second, a feat that underscores a potential 20-fold advancement compared to the existing 5G framework.

Nokia turns to Google's AI to give network APIs a boost

June 26, 2024 - Nokia hopes to make accessing APIs easier for developers through Google Cloud partnership and AI, with the technology yet to gain traction.

China to Commercialize 6G Technology around 2030

May 7/2024 - China announced that it is set to realize the commercialization of 6G technology around 2030.

Key Objectives of 6G Research

21/06/2024 - 6G is expected to be commercially available by 2030, revolutionizing connectivity with lightning-fast speeds, unprecedented bandwidths, and ultra-low latencies. It will transform various sectors, including telecommunications, manufacturing, healthcare, transportation, and entertainment.

7 use cases for 6G: Applications for next-gen communication technologies

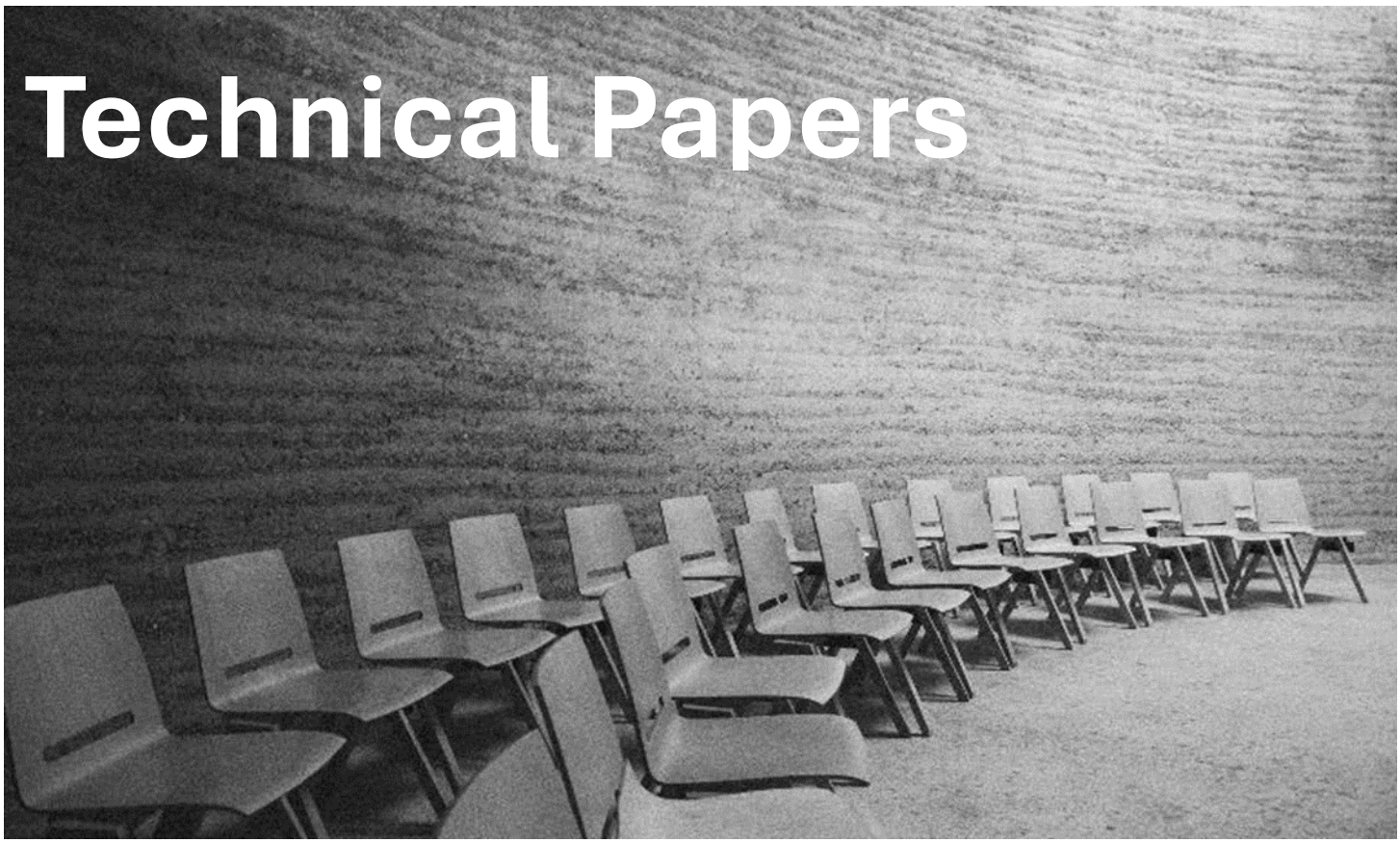
June 21, 2024 - 6G is expected to be commercially available by 2030, revolutionising connectivity with lightning-fast speeds, unprecedented bandwidths, and ultra-low latencies. It will transform various sectors, including telecommunications, manufacturing, healthcare, transportation, and entertainment.

Keysight Demos at IMS 2024 Focus on 5G/6G Innovations

June 24, 2024 - The latest RF solutions from Keysight Technologies, which are geared toward optimizing 5G and pioneering 6G applications, were on display at the IEEE MTT-S International Microwave Symposium (IMS) 2024. Several demonstrations were designed to accelerate RF innovations, including one that features a new wide-band active load-pull capability.

Keysight, Ericsson demonstrate pre-6G network

June 7, 2024 - A prototype for early 6G network uses Ericsson’s pre-standard protocol stack tailored for new spectrum bands linked to a test system from Keysight Technologies.



6G White Paper on Connectivity for Remote Areas

Saarnisaari, H., Dixit, S., Alouini, M.-S., Chaoub, A., Giordani, M., Kliks, A., Matinmikko-Blue, M., & Zhang, N. (Eds.). (2020). 6G White Paper on Connectivityfor Remote Areas. 6G Research Visions, No. 5. University of Oulu

This white paper addresses the significant digital divide in rural and remote areas due to factors like low population density, low income, difficult terrain, and lack of infrastructure. The paper posits that 6G could be the first mobile generation aimed at bridging this gap. It discusses the specific requirements and challenges that need to be considered in the design process of 6G networks. The paper outlines international targets, technical solutions, and highlights key research topics, focusing on terrestrial and non-terrestrial networks, local operations, and frequency spectrum issues.

White Paper on 6G Networking

Taleb, T., Aguiar, R. L., Yahia, I. G. B., Chatras, B., Christensen, G., Chunduri, U., Clemm, A., Costa, X., Dong, L., Elmirghani, J., Yosuf, B., Foukas, X., Galis, A., Giordani, M., Gurtov, A., Hecker, A., Huang, C.-W., Jacquenet, C., Kellerer, W., ... Zorzi, M. (2020). White Paper on 6G Networking. 6G Re- search Visions, No. 6. University of Oulu

This white paper is one of twelve new 6G White Papers led by the 6G Flagship program, involving over 50 experts in future 6G technologies. It explores advanced networking features that will shape the evolution beyond 5G towards 6G. The paper examines the impact of softwarization and service-based architecture, key technologies for 6G networking, the transition to a cloud-native mobile communication system, and the adoption of a new IP architecture for high precision services. It also discusses the benefits of high-precision end-to-end telemetry and cross-segment analytics for improving communication services.

White Paper on Machine Learning in 6G Wireless Communication Networks

Ali, S., Saad, W., & Steinbach, D. (Eds.). (2020). White Paper on Machine Learning in 6G Wireless Communication Networks. 6G Research Visions, No. 7. University of Oulu

This white paper focuses on the role of machine learning (ML) in 6G wireless communications, which will provide ubiquitous, reliable, and near-instant connectivity for humans and machines. Advances in ML have enabled technologies like self-driving vehicles and voice assistants, driven by sophisticated ML models, large datasets, and high computational power. The growing demand for connectivity necessitates innovation in 6G networks, with ML playing a key role. The paper outlines ML methods with high potential for wireless networks, addresses problems ML can solve across various network layers, explores zero-touch network optimization, and presents future research questions in each section.

Samsung's 6G White Paper Lays Out the Company's Vision for the Next Generation of Communications Technology

Samsung Research

Samsung envisions 6G as providing a hyper-connected experience everywhere. To advance 6G research, Samsung Research established the Advanced Communications Research Center. Sunghyun Choi, head of the center, notes that although 5G is still emerging, it's crucial to start 6G preparations, as it takes about 10 years from research to commercialization. Samsung is leveraging its experience with previous technologies to lead 6G development and standardization, collaborating with industry, academia, and government. The white paper anticipates 6G standards and initial commercialization by 2028, with mass adoption by 2030, offering advanced services like immersive XR, high-fidelity mobile holograms, and digital replicas.

NGMN 6G DRIVERS AND VISION

Contributors: Bell Canada, BT, China Mobile, Deutsche Telekom, NTT DoCoMo, Orange, PLDT Smart, TIM, TELUS, US Cellular, Vodafone

5G deployments are progressing globally, enhancing capabilities and performance for customers. Key features like disaggregation, softwarization, cloud-native design, and autonomous computing enable new technologies and business models for Mobile Network Operators (MNOs). This digital transformation is just beginning, with 5G evolving to meet diverse industry needs. The NGMN MNOs, along with vendors and research institutions, outline a vision for 6G, aiming for differentiated services and expanded market opportunities. The paper discusses the drivers for 6G, necessary future technologies, and NGMN's vision, emphasizing the need for new approaches in design and development and recommending prioritization of key gaps and challenges.

Events

Berlin 6G Conference 2024

- The Annual Networking Event of the German 6G Program -

Organized by the 6G Platform Germany

Berlin Congress Center (bcc), 01.-04. July 2024

IEEE MeditCom

IEEE International Mediterranean Conference on Communications and Networking
8–11 July 2024 // Madrid, Spain

IEEE ComSoc IEEE Communications Society

IEEE

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IEEE HK6GWS 2024: IEEE Hong Kong 6G Wireless Summit 2024

IEEE ComSoc Portfolio Event

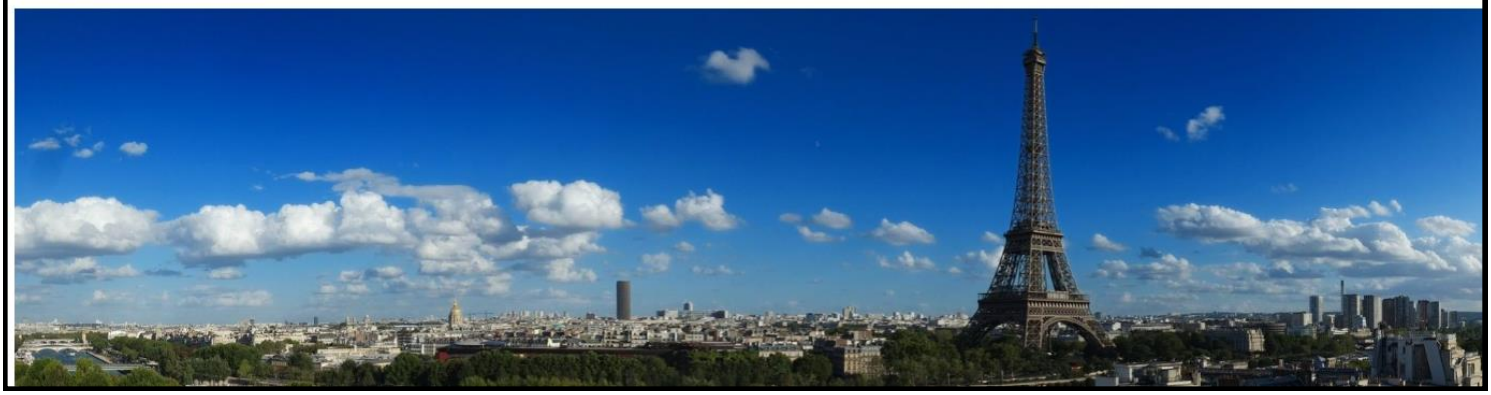
IEEE Hong Kong 6G Wireless Summit

6GNet

3rd Edition of the International Conference on 6G Networking

October 21-24, 2024
Paris, France

IEEE IEEE ComSoc IEEE Communications Society IEEE France Section




2024 Brooklyn 6G Summit
11th edition
23 - 25 October 2024
6G - From Vision to Action