

GIST Nobel Amano Center for Advanced LEDs hosts '4th ACALED Symposium'

- Conducted international joint research on micro LED displays and nanostructure nitride semiconductors with Professor Dong-Seon Lee's team and Nobel Laureate Professor Amano's team



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4th ACALED Symposium

Amano Center for Advanced LEDs, GIST

November 11st, 2021



노벨 아마노 첨단 LED 연구센터
Amano Center for Advanced LEDs



광주과학기술원
Gwangju Institute of Science and Technology



이 심포지엄은 화합물반도체 특화 나노
인프라 구축 사업의 지원을 받았습니다
This symposium is supported by Construction of GIST Nano-
Infra for Compound Semiconductor Photonic Convergence

초 대 의 글

아마노 첨단 발광다이오드 연구센터의 네번째 심포지엄 개최를 알립니다.
저희 센터는 나고야 대학의 아마노 교수님을 센터장으로 2016년 설립된 이래 나노 구조 질화물 반도체의 성장 및 소자 공정 연구를 포함한 선도적인 광소자 연구를 꾸준히 진행해 왔습니다.
이번 심포지엄에서는 마이크로 LED 디스플레이와 나노구조 질화물 반도체 분야에서 탁월한 연구를 하고 계시는 초청연사들을 모셨습니다. 특별히, 명예 센터장이신 아마노 교수님께서 이 주제를 기반으로 기조강연을 하십니다.
비록 전세계적인 COVID-19 상황으로 인해 온라인으로 진행하게 되었지만, 그럼에도 불구하고 이번 심포지엄이 활발한 의견교환과 열띤 논의의 장이 되기를 희망합니다. 더불어, 저희 센터에 변함없는 애정과 관심 또한 부탁 드립니다.
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노벨 아마노 첨단 LED 연구센터
Amano Center for Advanced LEDs

Vice-Director **Dong-Seon Lee**



I am glad to announce the 4th symposium of the Amano Center for Advanced LEDs. Since it was established in 2016 with Professor Amano as Honorary Director, our center has been steadily working on developing advanced photonic devices including the growth and fabrication of nanostructured nitride semiconductor devices and their applications. In this symposium, we invited guest speakers who are doing outstanding research in the field of micro LED displays, growth and device fabrication of nanostructured nitride semiconductor. Especially, Prof. Amano will give a plenary talk based on this subject. Although the symposium is held online due to the global COVID-19 situation, we hope that it will nevertheless serve as a venue for active exchange of views and heated discussion. I also ask for your continued affection and interest in our center.
Thank you.

INVITATION

일 정

Time	Program
PM 1:40 – 2:00	Registration
PM 2:00 – 2:10	Prof. Dong-Seon Lee (GIST, ACALED Vice-director) Welcome remark and brief introduction of ACALED
PM 2:10 – 2:35	Prof. Hiroshi Amano (Nagoya University) (Plenary) 'Introduction to C-TEFs and the Future Prospects of GaN-Based Micro-LED Display'
PM 2:35 – 3:00	Prof. Jeehwan Kim (Massachusetts Institute of Technology) 'Challenges and opportunities in remote epitaxy and its applications'
PM 3:00 – 3:25	Prof. Tae-Yeon Seong (Korea University) 'Micro-Light Emitting Diodes: Effects of size, V pits, and passivation'
PM 3:25 – 3:50	Prof. Ray-Hua Horng (National Yang Ming Chiao Tung University) 'Micro-LED Display Technology Trend'
PM 3:50 – 4:00	Break
PM 4:00 – 4:25	Prof. Yong-Ho Ra (Jeonbuk National University) 'Nano-photonics by III-nitride nanowire structures'
PM 4:25 – 4:50	Prof. In-Hwan Lee (Korea University) 'Fluidic self-assembly of micro-LED chips with shaped magnetic heads and InGaP/InAlGaP red LEDs with plasmonic nanohole structures: Toward micro-LED displays'
PM 4:50 – 5:15	Prof. Young Joon Hong (Sejong University) 'Remote epitaxy of micron-sized semiconductors for fabricating deformable lighting devices'
PM 5:15 – 5:40	Prof. Yong-Hoon Cho (KAIST) 'Quantum Photonics Based on Group III-Nitride Nanostructures'
PM 5:40 – 6:05	Prof. Dong-Seon Lee (GIST) 'Full-color Integration of LEDs toward Micro LED Display Applications'
PM 6:05	Closing

SCHEDULE

▲ 2021 4th ACALED Symposium pamphlet

GIST (Gwangju Institute of Science and Technology, President Kim Kiseon) Nobel Amano Center for Advanced LEDs (ACALED, Director Nagoya University Professor Hiroshi Amano, Deputy Center Director GIST School of Electrical Engineering and Computer Science Professor Dong-Seon Lee) hosted the online '4th ACALED' on November 11, 2021.

The GIST Nobel Amano Advanced LED Research Center, which opened in 2016 to develop advanced devices based on nanostructure technology of nitride semiconductors and secure global research capabilities and technology, is conducting joint research with 2014 Nobel Prize winner Professor Amano of Nagoya University, who is the highest authority and expert in this field.

Through annual international seminars and symposiums, the research center provides an opportunity to exchange information with advanced researchers and students on the development of advanced LEDs, including micro LEDs, and the challenges faced by nitride semiconductors.

By inviting speakers who are conducting outstanding research in the field of micro LED display and nanostructure semiconductor research, the symposium held nine leading domestic and foreign researchers' seminars, including 'Introduction to C-TEFs and the future prospects of GaN based Micro-LEDs displays' by Professor Hiroshi Amano, the center's director.

GIST Professor Dong-Seon Lee, the deputy director of the center, said, "Although this symposium will be held online to prevent the spread of COVID-19, it is expected that it will become a venue for more active exchange of opinions and heated discussions than any other year. We hope that this event will make a small contribution to the development of this field, and we ask for your continued interest and support for our center and research fields."

Currently, about 15 researchers at GIST Nobel's Amano Center for Advanced LEDs are continuously conducting joint research with Professor Amano's research team, and they are aiming to develop nanostructure-based LEDs and micro LEDs in the future and develop technologies to apply them to displays.

Recently, Professor Amano, Professor Dong-Seon Lee (co-corresponding author), and Ph.D. student Jeong-hwan Park of the Department of Electrical Engineering at Nagoya University, supported by the Amano Center for Advanced LEDs, published the research results (the paper's title: The stability of graphene and boron nitride for III-nitride epitaxy and post-growth exfoliation) in *Chemical Science*, an internationally renowned journal.