




MinJae Kim

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EDUCATION

- Feb. 2019 - Feb. 2025 **Korea Advanced Institute of Science and Technology (KAIST)**
Undergraduate, Department of Materials Science and Engineering
- Total GPA of 4.23/4.3 (99.93/100), Honor Student
 - Global Leadership Award (Top 18 out of ca. 11,000 students)
 - College of Engineering Leadership Award (Top 10 out of ca. 3,000 students)
 - Dean's List (Top 3% in College of Engineering)
 - Departmental Honor Scholarship (Top 4 in ca. 120 students)
 - Fulfilled obligatory military service in Republic of Korea Army (Mar. 2021 - Sep. 2022)

RESEARCH EXPERIENCE

- Mar. 2024 - Present **Integrated Organic Electronics Lab., KAIST**
Undergraduate Researcher (Advisor: Prof. Seunghyup Yoo)
- Devised and led project on near-planar light outcoupling structure for ultra-efficient organic light-emitting diodes through trans-scale design
 - Received KAIST Undergraduate Research Program (URP) grant
 - Awarded Best Paper Award at Optics and Photonics Congress 2024
 - Conceived and developed ultralow-power and stable wearable pCO₂ sensor for seamless respiratory monitoring
- June 2023 - Oct. 2023 **Evans Lab., Wellman Center for Photomedicine, Massachusetts General Hospital**
Research Intern (Advisor: Prof. Conor L. Evans)
- Enabled intrinsically stretchable optochemical pCO₂ sensors with block copolymer matrices
 - Won second place and People's Choice Award (Top 4) out of ca. 30 students at poster session of Harvard-MIT Summer Institute at MGH
- July 2022 - Dec. 2023 **Next-Generation Optoelectronic Nanomaterials Lab., KAIST**
Undergraduate Researcher (Advisor: Prof. Himchan Cho)
- Led project on highly luminescent and stable quasi-2D Dion-Jacobson phase perovskites based on multi-functional asymmetric spacer
 - Received KAIST Undergraduate Research Program (URP) grant
 - Awarded Grand Prix (Top 3 out of 60 projects) at 2023 URP Workshop
 - Awarded Best Poster Presentation Award at 2023 Spring Meeting of Korean Institute of Materials and Metals
 - Devised and worked on project on effective passivation of quasi-2D perovskites enabled by π -conjugated planar molecules

PUBLICATION

2. M.J. Kim, J. Kim, S. Yoo*, **Near-planar light outcoupling structure for ultra-efficient organic light-emitting devices**, *In preparation*
1. M.J. Kim[†], D. Choi[†], C. Kang, S. Yoo*, **An ultralow-power, stable carbon dioxide sensor for real-time breath monitoring**, *Under revision at Device by Cell Press*

HONORS AND AWARDS

Scholarships

2023 - 2024	Woonhae Scholarship , Woonhae Foundation
2023	Young-Han Kim Global Leader Scholarship , KAIST
2022 - 2025	Dream Supporter Scholarship , Global Hansang Dream Foundation
2021 - 2025	KAIST Presidential Fellowship , KAIST
2019 - 2025	National Presidential Science Scholarship , President of South Korea

Honors and Awards

2024	National Delegate to 73rd Lindau Nobel Laureate Meeting , Korean Academy of Science and Technology
2024	NUS Young Fellow , National University of Singapore
2023	Young Future Energy Leader , Khalifa University
2023	Representative of KAIST, Young Engineers Honor Society , National Academy of Engineering of Korea
2021	Talent Award of Korea , Ministry of Education
2020	Nobel Ceremony Guest and National Delegate , Stockholm International Youth Science Seminar (SIYSS)
2020	Cadet of Research Officer for National Defense , Ministry of Science and ICT, Ministry of Defense

EXTRACURRICULAR

Sep. 2020 - Present	Young Engineers Honor Society, National Academy of Engineering of Korea <i>2023 Representative of KAIST, Full member</i> <ul style="list-style-type: none">Designed and organized Junior Engineering Class, where 5+ KAIST students go outreach for and teach 100+ elementary and middle school students in community annuallyDelivered lectures at Specialty Info Sessions for high school students
Jan. 2020 - Feb. 2021	Samsung Dreamclass, Samsung Welfare Foundation <i>Mentor (Mathematics and Programming)</i> <ul style="list-style-type: none">Conducted lectures for two classes of 10 and 3 underprivileged students respectively, developed teaching materials, marked assignments daily, and answered questions in personWon Excellence in Mentorship Award given to top 10% of mentors

Skills

Language	English (fluent, TOEFL iBT: 106), Korean (native) L ^A T _E X(advanced), MATLAB (moderate), Python (moderate), HTML (moderate)
Simulation	LightTools (advanced), ChemOffice (advanced), Lumerical (novice), COMSOL (novice)
Technical	Optical and photonic design of optoelectronics, PeLED/OLED fabrication and characterization, Organic synthesis and analysis

Reference

Seunghyup Yoo, PhD
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