

MinJae Kim

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Education

Korea Advanced Institute of Science and Technology (KAIST)

Daejeon, Korea

UNDERGRADUATE, DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

Feb. 2019 - Present

- KAIST Presidential Fellowship(2021 - Present), Honor Student(Mar. 2021 - Present)
- Total GPA of 4.22/4.3 (99.11/100), Acquired credits: 132/136 (includes 21 graduate-level coursework credits)
- Dean's List (top 3% in the department): 3 times out of 4 semesters
- Served Korean military duty(Mar. 2021 – Sep. 2022)

Research Experience

Wellman Center for Photomedicine, Massachusetts General Hospital

Boston, MA

SUMMER INTERN (ADVISOR: PROF. CONOR L. EVANS)

Jun. 2023 – Present

- Project title: Block copolymer matrices for stretchable transcutaneous carbon dioxide partial pressure sensing
- Devised block copolymer matrices for stretchable pCO₂ sensor with excellent stability and mechanical properties

Next-Generation Optoelectronic Nanomaterials Lab., KAIST

Daejeon, Korea

UNDERGRADUATE RESEARCHER (ADVISOR: PROF. HIMCHAN CHO)

Jul. 2022 – Present

- Project title: Development of highly luminescent and stable quasi-2D perovskites based on multi-functional asymmetric spacers
- Devised and validated the 3rd-generation geometrically and electronically asymmetric spacer for Dion-Jacobson phase quasi-2D perovskite
- Revealed that asymmetry of spacer molecule enhanced luminescence by stabilizing bright triplet exciton compared to dark singlet exciton
- Granted Undergraduate Research Program (KRW 5M)
- Awarded Best Poster Presentation Award at Spring Meeting 2023 of Korean Institute of Materials and Metals

PLatforms Utilizing nano-Structures Lab., KAIST

Daejeon, Korea

UNDERGRADUATE RESEARCHER (ADVISOR: PROF. JIHYEON YEOM)

Dec. 2020 – Feb. 2021

- Project title: Facile synthesis of chiroptical magnetite nanoparticle using mandelic acid
- Designed synthesis of novel chiral magnetite nanoparticles using enantiomeric mandelic acids and glutamic acid, eventually showed α-hydroxy acid plays a significant role in binding
- Performed circular dichroism (CD) measurements and analyzed the relative strength of interaction between chiral molecules and nanoparticles via deconvolution

Presentation

Highly Luminescent and Stable Quasi-2D Perovskites based on Multi-functional Asymmetric Spacer

Jeju, Korea

POSTER PRESENTER

Apr. 2023

- Best Poster Award in 2023 Korean Institute of Metals and Materials Fall Meeting [Poster]

Application of PEDOT:PSS Thin Film Fabricated via Hot-casting as Hole Transport Layer of Perovskite Solar Cell

On-line

NATIONAL DELEGATE OF SOUTH KOREA, NOBEL CEREMONY GUEST, ORAL PRESENTER

Dec. 2020

- Stockholm International Youth Science Seminar [Abstract][Presentation]

Honors & Awards (Selected)

SCHOLARSHIPS

2023	Yeonghan Kim Global Leader Scholarship , KAIST	Daejeon, Korea
2023	Woonhae Scholarship (2023-2024) , Woonhae Foundation	Changwon, Korea
2022	Dream Supporter Scholarship , Global Hansang Dream Foundation	Ulsan, Korea
2021	KAIST Presidential Fellowship (2021-2024) , KAIST	Daejeon, Korea
2019	National Presidential Science Scholarship (2019-2024) , Korea Student Aid Foundation	Seoul, Korea

HONORS

2023	Young Future Energy Leader , Khalifa University	Abu Dhabi, UAE
2023	Representative of KAIST , Young Engineers Honor Society, National Academy of Engineering of Korea	Seoul, Korea
2022	National Delegate , Asian Students' Venture Forum	Seoul, Korea
2020	National Delegate and Nobel Ceremony Guest , Stockholm International Youth Science Seminar(SIYSS)	On-line
2020	Cadet of Research Officer for National Defense , Ministry of Science and ICT	Seoul, Korea
2020	Young Engineers Honor Society , National Academy of Engineering of Korea	Seoul, Korea

AWARDS

2023	Global Leadership Award , KAIST	Daejeon, Korea
2022	Bronze Award , Asian Students' Venture Forum	Seoul, Korea
2021	Talent Award of Korea , Ministry of Education	Seoul, Korea
2021	Youth Hero Prize , Korea Scout Association	Seoul, Korea
2020	Excellence in Mentorship Award , Samsung Welfare Foundation	Ansan, Korea

Extracurricular Activity

KAIST Center for Excellence in Learning and Teaching

Daejeon, Korea

SPECIAL LECTURER

Nov. 2022

- Presented tips for undergraduate and graduate freshmen (KAIST Tip Talk program)
- [Lecture Video]

Young Engineers Honor Society, National Academy of Engineering of Korea

Seoul, Korea

REPRESENTATIVE OF KAIST, FULL MEMBER (REGISTRATION NO. Y34-14)

Sep. 2020 – Present

- Served representative of KAIST (Jan. 2023 - Present)
- Outreached high school students for special lectures on college admission and majoring
- Developed educational content for outreach

Board of Audit and Inspection, KAIST Undergraduate Association

Daejeon, Korea

INSPECTION COMMISSIONER

Apr. 2019 – May 2020

- Served as President, Oct. 2019 – May 2020
- Enacted inspection forms, revised manual, and legislated rules for field audit
- Composed audit reports of organizations, reported to undergraduate student assembly