

# MinJae Kim

291, Daehak-ro, Yuseong-gu, Daejeon, 34141, South Korea

✉ mj3259@kaist.ac.kr | 🏠 mj3259.github.io | 🌐 MinJae Kim

## 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: 134/136 (includes 21 graduate-level coursework credits)
- Dean's List (top 3% in the department): 5 times out of 6 available 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 pCO<sub>2</sub> sensor with excellent stability and mechanical properties
- Awarded the People's Choice Award at the poster session

### 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 (Apr. 2023)
- Awarded Grand Prix at 2023 Undergraduate Research Program Workshop

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

## HONORS

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

## AWARDS

2023	<b>CoE Leadership Award</b> , College of Engineering, KAIST	Daejeon, Korea
2023	<b>Global Leadership Award</b> , KAIST	Daejeon, Korea
2022	<b>Bronze Award</b> , Asian Students' Venture Forum	Seoul, Korea
2021	<b>Talent Award of Korea</b> , Ministry of Education	Seoul, Korea
2021	<b>Youth Hero Prize</b> , Korea Scout Association	Seoul, Korea
2020	<b>Excellence in Mentorship Award</b> , 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