

# #2024LabList





**Gunsu Yun** [gunsu@postech.ac.kr](mailto:gunsu@postech.ac.kr)

Physics & Division of Advanced Nuclear Engineering

**Lab.** P4 – Laboratory for high energy pasmas

**Capacity** 2

**Block** 2

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**Research Topic**

- Phase separation in supercritical fluids
- Electron solvation at plasma-liquid interface

**Prerequisite** N/A

**Remarks**

N/A



**Gunsu Yun** [gunsu@postech.ac.kr](mailto:gunsu@postech.ac.kr)

Physics & Division of Advanced Nuclear Engineering

**Lab. P4**

**Capacity 2**

**Block 1**

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### **Research Topic**

- High-density plasma physics and applications
- Electron solvation by plasma-water surface interaction
- Microwave plasma for space propulsion

**Prerequisite** General Physics & General Chemistry

### **Remarks**

N/A





# Kitack Lee

kit@postech.ac.kr

## Environmental Science & Engineering

**Lab.** CLIMATE

**Capacity** 1

**Block** 1 or 2

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### Research Topic

- Ocean Carbon Removal (OCR)
- Ocean Acidification

**Prerequisite** N/A

### Remarks

N/A



# Hwasung Yeom

hyeom@postech.ac.kr

Division of Advanced Nuclear Engineering

**Lab.** Surface Engineering and Nuclear Material Research Gr

**Capacity** 2

**Block** 2

## Research Topic

- Safe management of spent nuclear fuel
- Advanced nuclear fuel and structural materials
- Nuclear hydrogen technologies

**Prerequisite** Introduction to Nuclear Engineering or Material Science/Engineering

## Remarks

- Senior Undergraduate Student or Master Student



# Moses Chung

moses@postech.ac.kr

Division of Advanced Nuclear Engineering

**Lab.** Center for Accelerator Physics and Engineering (CAPh)

**Capacity** 2

**Block** 2

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## Research Topic

- Development of a NEG coating-based extreme ultrahigh vacuum system
- Magnetic field measurements of a wave length shifter made of high-temperature superconductors

**Prerequisite** N/A

## Remarks

N/A



# Byong Don KONG

byongdong.kong@postech.ac.kr

## Electrical Engineering

**Lab.** Physical Electronics Lab.

**Capacity** 1

**Block** 2

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### Research Topic

- Transport Properties of Emerging Materials (Theory)
- Low-dimensional Material Devices Fabrication (Experiment)

**Prerequisite** Semiconductor Device

### Remarks

- A candidate can choose one topic after joining
- Electrical Engineering, Material Science, Physics related Major
- Junior and Senior (undergraduate 3~4 year)



# Wonbin Hong

w.hong@postech.ac.kr

## Electrical Engineering

**Lab.** Microwave Antenna Device Systems (MADs)

**Capacity 1**

**Block 2**

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### Research Topic

- Metasurface Antennas for Electromagnetic Field Manipulation

**Prerequisite** Electromagnetics, Microwave Engineering

### Remarks

- Junior year or above 3rd year undergraduate





# Youn Bae Kang

y.kang@postech.ac.kr

Graduate Institute of Ferrous & Eco Materials Technology

**Lab.** Clean Steel Laboratory

**Capacity** 2

**Block** 2

## Research Topic

- Clean and Environmental-friendly Materials Production
  - Low C Ironmaking and Steelmaking
  - Recycling of Materials
  - Hydrogen Production

**Prerequisite** N/A

## Remarks

- Mater. Sci. Eng., Metallurgical Eng., Chemical Eng. Major



# Hyoung Seop Kim

hskim@postech.ac.kr  
Graduate Institute of Ferrous & Eco Materials Technology

**Lab.** Structural Nano Metals & Processing Laboratory

**Capacity** 3

**Block** 2

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## Research Topic

- Metal Additive Manufacturing (3D Printing) of Composites and High Entropy Alloys

**Prerequisite** N/A

## Remarks

N/A



# Duck Young Kim

lykimrt@postech.ac.kr

## Industrial & Management Engineering

**Lab.** Factory Intelligence Laboratory

**Capacity** 2      **Block** 1 or 2

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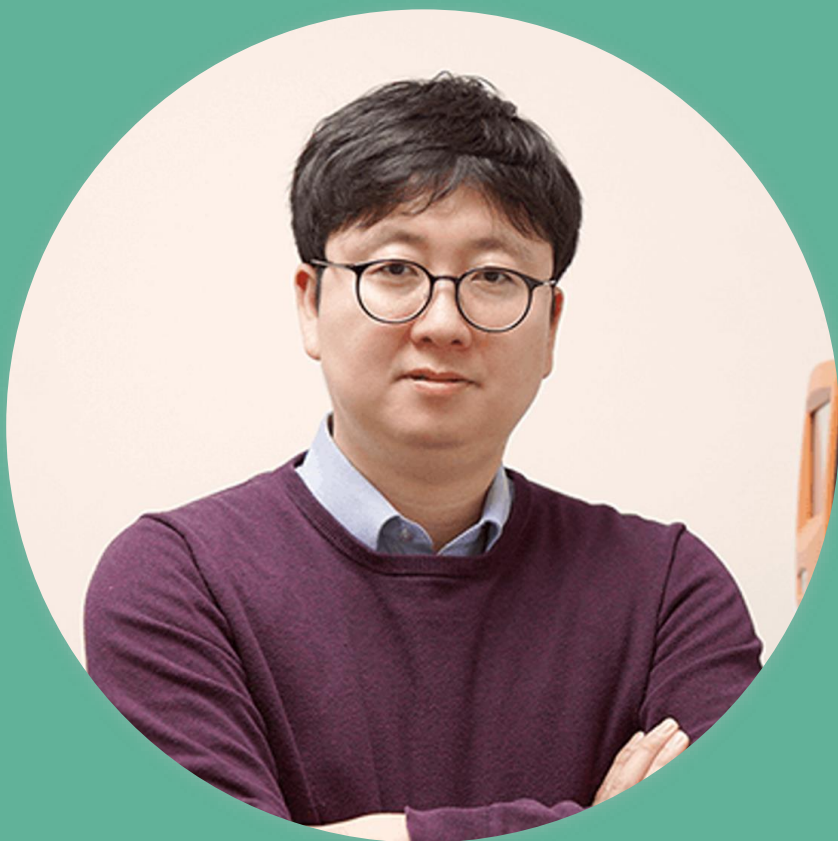
### Research Topic

- Smart Factory Industrial AI

**Prerequisite** Computer Programming

### Remarks

- AI for Machine Healthcare
- AI for Autonomous Mobile Robot
- <https://fi.postech.ac.kr>



# Sekyu Choi

Life Sciences

sekyuchoi@postech.ac.kr

**Lab.** Lab of Stem Cell Biology and Regenerative Medicine

**Capacity** 1

**Block** 1

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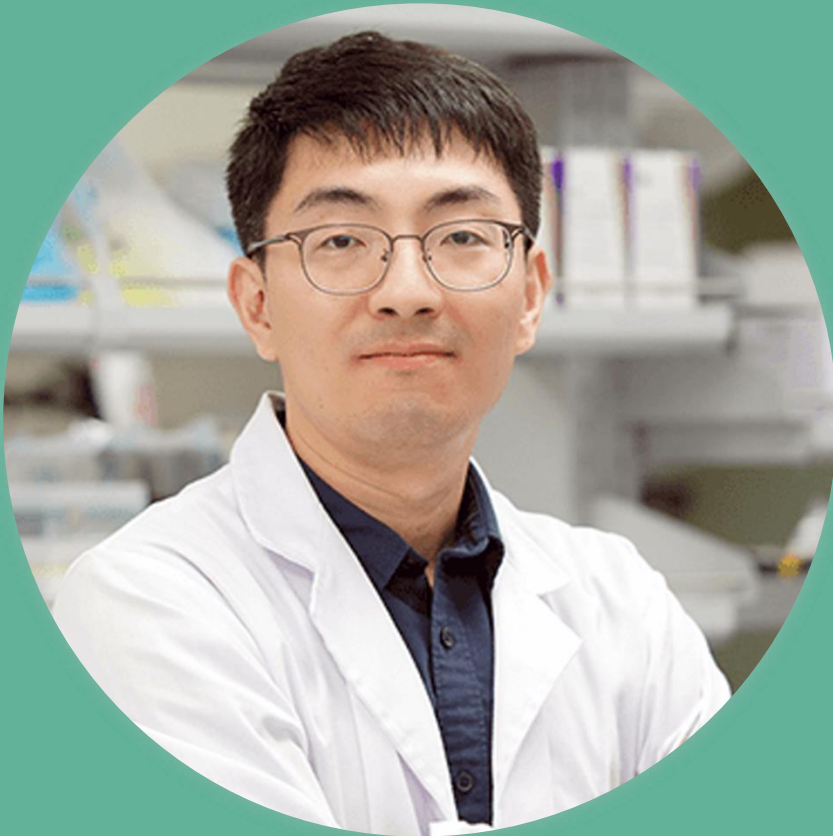
## Research Topic

- Stem cells, Regeneration

**Prerequisite** N/A

## Remarks

N/A



# Jong Hum Kim

jonghumkim@postech.ac.kr  
Life Sciences

**Lab.** Lab of Plant-microbe-environment interactions

**Capacity** 1

**Block** 1 or 2

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## Research Topic

- Study on the effect of suboptimal environments on plant-pathogen interactions

**Prerequisite** Plant Physiology, Plant Pathology (Recommended)

## Remarks

N/A





# Sung Min Park

## Mechanical Engineering

sungminpark@postech.ac.kr

**Lab.** Innovative Medical Solution

**Capacity** 2

**Block** 2

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### Research Topic

- Bioelectronics: Developing flexible implantable electrodes

**Prerequisite** N/A

### Remarks

- MEMS
- Circuit Theory
- Embedded Systems
- Senior Undergraduate students or masters preferred



# Gyoo Yeol Jung

gy.jung@postech.ac.kr

Chemical Engineering

**Lab.** Molecular diagnosis and Synthetic biology lab (MDSB)

**Capacity** 3

**Block** 1 or 2

## Research Topic

- Construction of microbial cell factory to achieve high-productivity of high-valued chemical
- Conversion of Next-Generation Biomass into High-value compounds using vibrio derived novel microorganisms

**Prerequisite** Molecular biology, Biochemistry, Metabolic engineering

- Remarks**
- Development of a Biosensor for Real-time Detection of Intracellular Target Compound Concentrations
  - Precise regulation of metabolic pathway and Protein Engineering Utilizing Synthetic Biology-Based Genetic Techniques
  - Biorefinery using a novel microbial platform for the consolidated bioprocess of brown macroalgae
  - Preferred Major: bioengineering, life science, microbiology



# Young Tae Chang

Chemistry

ytchang@postech.ac.kr

**Lab.** Sensor & Molecular Imaging Lab

**Capacity** 3

**Block** 1 or 2

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## **Research Topic**

- Stem cells, Regeneration

**Prerequisite** N/A

## **Remarks**

- Graduate Students (MS or PhD course)



# Won Ki Hong

wkhong@postech.ac.kr

## Computer Science & Engineering

**Lab.** DPNM

**Capacity** 1

**Block** 2

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### Research Topic

- Blockchain & Cryptocurrency

**Prerequisite** N/A

### Remarks

- Above 2nd year student



# Won Ki Hong

wkhong@postech.ac.kr

## Computer Science & Engineering

**Lab.** DPNM

**Capacity** 1

**Block** 2

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### Research Topic

- AI-based Network Management

**Prerequisite** AI, Computer Network

### Remarks

- Above 3rd year student
- Major: IT related





**HangJin Jo** jo4@postech.ac.kr  
Division of Advanced Nuclear Engineering

**Lab.** Thermal-Hydraulics and Energy System Lab

**Capacity** 1

**Block** 2

**Research Topic**

- Two-phase heat transfer, natural convection experiments

**Prerequisite** N/A

**Remarks**

N/A