

Minjae Kwon

Curriculum Vitae

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Education

- MAR2012- FEB2015 **General Curriculum for Science and Technique**, Masan-Yongma High School, Changwon, Republic of Korea.
- MAR2015- FEB2019 **Bachelor of Science (B.S.), Physics**, Pusan National University, Busan, Republic of Korea.
- MAR2019- present **Master of Science (M.S.), Physics**, Pusan National University, Busan, Republic of Korea.

Major Courses

- Quantum Mechanics
- Computational Physics (MATLAB)
- Electronics For Scientists
- Nuclear Physics
- Particle Physics

Interests

Physics

- Exploring QCD phase diagram
- 1st order phase transition between hadronic matter and quark gluon plasma

Experiment

- Silicon Pixel Detector (SPD) and Silicon Photomultiplier (SiPM)
- Detector with ultra-fast data-taking, recovering with high granularity
- PIDable SPD (PID: Particle Identification)
- SiPPMD (Silicon Pixel Photomultiplied Detector): combining SPD and SiPM with MAPS technology for on-chip analogue data processing

Simulation

- GEANT

Secondary Education

- Easily accessible data-taking device for student
- Simple, cheap, easily hackable particle detector

Experience

Working

- MAY2015– **Teaching and advising designing experiments and data-taking technique with**
DEC2015 **Arduino** , *Masan-Yongma High School*, Changwon, Republic of Korea.
Project Name: Development of Device for Microcomputer-Based Laboratories (MBL) with Arduino (Arduino를 활용한 MBL장비 고안)
Supported by Youth Science Class (YSC) funded by the Korea Foundation for the Advanced of Science & Creativity (KOFAC).
- DEC2016– **Internship**, *Heavy Ion Experiment Lab. (HIPEX)*, *Department of Physics, Pusan*
FEB2019 *National Unviesity*, Busan, Republic of Korea.
- MAR2019– **Researcher : Master Course**, *Heavy Ion Experiment Lab. (HIPEX)*, *Department*
present *of Physics, Pusan National Unviesity*, Busan, Republic of Korea.
- 01JUL2019– **Summer Student**, *CERN*, Meyrin, Switzerland.
24AUG2019 CERN Non-Member State Summer Students 2019

Project

- MAY2014– **Data Transfer Technique with Arduino via Visible Light**, *Masan-Yongma High*
DEC2014 *School, Republic of Korea*.
Original Title (Korean): Arduino를 활용한 가시광선대역의 전자기파를 이용한 상호 데이터 교환 기술
Supported by Youth Science Class (YSC) funded by the Korea Foundation for the Advanced of Science & Creativity (KOFAC).
- FEB2017– **Circumstance Monitoring System Development**, *HIPEX*, *Department of*
MAY2017 *Physics, Pusan National University*.
System to monitor temperature and humidity was developed with Raspberry Pi, external sensor, and Google Spreadsheet for data storing. Data can be served without local server, just with google spreadsheet. It has been running smoothly in clean room for about 2 years. (since May 2017)
- MAY2017– **Mass Chip Test (MCT) and Hybrid Integrated Circuit Assembly (HIC As-**
present **sembly)**, *HIPEX*, *Department of Physics, Pusan National University*.

Conferences (Oral Presentation, Poster)

- 26OCT2017 **Poster) Temperature and Humidity Monitoring System with Raspberry Pi,**
Contest for Undergraduate at KPS Fall Meeting, Gyeongju, Republic of Korea.
Original Title (Korean): 라즈베리파이를 이용한 온도 및 습도 모니터링 시스템 구축
- 11JUN2018 **OB HIC Production - Pusan/Inha**, *11th ALICE ITS upgrade, MFT and O2 Asian*
Workshop, Hiroshima, Japan.
<https://indico.cern.ch/event/687364/contributions/3036053>
- 04NOV2018 **A Report on Korean activities for the ALICE-ITS upgrade**, *The 7th Asian*
Triangle Heavy-Ion Conference (ATHIC 2018), Hefei, China.
<https://indico.ihep.ac.cn/event/8180/session/35/contribution/181>

Publication

1. Jongsik Eum, **Minjae Kwon**, Sanghyeon Lee, In-Kwon Yoo, "Feasibility study on TID(Total Ionizing Dose) Effect of ALPIDE with KOMAC", *New Phys.: Sae Mulli*, Submitted at 28JAN2019 (Co-Author)

Languages

Korean	Native	<i>Mother Tongue</i>
English	Intermediate: B2	<i>1st Foreign Language</i>
Japanese	Elementary: A2	<i>2nd Foreign Language</i>
French	Beginner: A1	<i>3rd Foreign Language</i>

Computer Skills

Bold: Well Skilled

Programming Language **Python, C++**, Fortran, Shell Script

Mathematics Tool **MATLAB, Mathematica**

Physics Package **ROOT**, GEANT4

Operating System **Linux, MacOS**

Graphical Design **Photoshop, Illustrator**, Indesign

Mechanical Design AutoCAD

Others **LaTeX**, MongoDB

Attended Workshop, School

24JUL2017– **6th International Geant4 Tutorial in Seoul 2017**, Seoul, Republic of Korea.

28JUL2017 <https://hep.kisti.re.kr/indico/conferenceDisplay.py?confId=234>

09JAN2019– **Particle Detector School for High Energy Physics (PDS4HEP)**, Jeongsun-gun, Republic of Korea.

11JAN2019 Original Title (Korean): 2019 고에너지물리 입자검출기 학교
<https://indico.sccc.uos.ac.kr/event/3>