

Core Francisco Park

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Highlights

- **Harvard University Graduate School of Arts and Sciences**, Massachusetts, U.S.A.
 - Ph.D. Candidate in Physics (Sep 2019 –)
 - **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, South Korea
 - B.S. in Physics, Total GPA: 4.08/4.3
 - Graduated Feb 2019, Advanced Major in Physics, Individually Designed Major, Summa Cum Laude
 - 2018 Physics Department Honorary Scholarship
 - 2015 Spring, 2015 Fall, 2017 Spring Dean's List
 - **Ecole Polytechnique Exchange Student**, Palaiseau, France
 - **Former Undergraduate Research Assistant in IBS Center for Axion and Precision Physics**, Daejeon, South Korea
 - Dark Matter Axion Search Experiment Using 18T HTS Magnet
 - **Delegations**
 - **2018 Stockholm International Youth Science Seminar Korean Representative**, Stockholm, Sweden
 - 2016 KAIST International Discovery Program, Munich, Germany
 - 2014 Asian Science Camp Korean Delegation, NTU, Singapore
 - **Scholarships**
 - **Harvard Physics Purcell Fellowship**
 - **Doctoral Study Abroad Scholarship, KFAS**
 - KFAS Undergraduate student scholarship
 - Korea Presidential Science Scholarship
 - KAIST Full Tuition Scholarship
 - **Fluent in English, Korean and French**
 - **Agile in Python, Linux, C++, Java, ROOT, CAD**
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MAIN INTERESTS

Data-Driven Astrophysics and Astro-statistics

EDUCATION

Harvard University Graduate School of Arts and Sciences, Massachusetts, U.S.A.

- **Ph.D. Candidate in Physics** Sep 2019 –

Seoul National University(SNU), Seoul, Republic of Korea

- **Graduate Coursework in Physics** Mar 2019 –Jul 2019

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea

- **B.S. in Physics** Mar 2015 –Feb 2019
 - Graduated Feb 2019 with **Advanced Major in Physics** and Individually Designed Major with **Summa Cum Laude**
 - Adviser: Prof. Hawoong Jeong

- Grand Total Credit: 144
- Total GPA: 4.08/4.3
- Focus: Astro-Particle Physics, Computational Physics, Biophysics
- Grades: Advanced PhysicsI(A+), Advanced PhysicsII(A+), Classical MechanicsI(A0), Classical MechanicsII(A0), Classical Electromagnetism II(A0), Modern Physics(A+), Mathematical Methods in Physics II(A0), Thermal Physics(A0), Statistical Physics(A0), Physics Lab I(A+), Physics Lab II(A+) Physics Lab III(A0), Quantum MechanicsI(A+), Introduction to Plasma Physics(A+), Nuclear and Elementary Particle Physics(A+), Computational Physics(A+), Special Topics in Physics<Biophysics>(A+)

Ecole Polytechnique, Palaiseau, France

- Exchange Student Aug 2017 – Jan 2018
 - Credits: 14
 - A,B,C tri-level grading
 - Grades: Quantum Mechanics 2(A), Theory of Relativity and Cosmology(A), Data Structure(A)

Hansung Science High School, Seoul, Republic of Korea

- High School Studies Mar 2013 – Feb 2015

RESEARCH EXPERIENCE

IBS Center for Axion and Precision Physics, KAIST Munji Campus, Daejeon, Republic of Korea

- **Dark Matter Axion Search Experiment Using 18 T HTS Magnet** Apr 2018 – Feb 2019
 - Undergraduate Research Assistant
 - Project: Signal Processing and Verification, Fourier Transform and Real Time DAQ setup, Axion likelihood analysis, CUDA implementation on GPU, Online data analysis
 - Supervisor: Prof. Jonghee Yoo

AWARDS

- **Best Project Award, KIAS** Feb 15 2019

Awarded to the best machine learning project of the Center for Advanced Computation Summer School 2019
- **Summa Cum Laude, KAIST** Feb 15 2019
- **Dean's List, Department of Physics, KAIST** Aug 28 2017

Awarded to the top academic achievement students of 2017 Spring Semester
- **Best Buddy Award, International Office, KAIST** Dec 2016

For best communication and help to foreign exchange students
- **Dean's List, School of Freshmen, KAIST** Mar 01 2016

Awarded to the top 3% of all freshmen of 2015 fall semester
- **Dean's List, School of Freshmen, KAIST** Aug 31 2015

Awarded to the top 3% of all freshmen of 2015 spring semester
- **Grand Prize in the HSHS English Speech Contest 2014,** Aug 2014

Hansung Science High School

- Hansung Science Study and Experimentation Award,
Hansung Science High School Jul 2014
 - Subject Excellency Awards on Physics, Informatics, English at Hansung Science High School Jul 2013 – Jul 2014
 - Grand Prize in the HSHS English Speech Contest 2013,
Hansung Science High School Aug 2013
 - Bronze Medal, Korea Youth Science Olympiad, KISE Apr 2014
 - Grand Prize in the HSHS English Speech Contest 2013,
Hansung Science High School Jul 2013
- SCHOLARSHIPS**
- **Purcell Fellowship, Harvard Physics** Sep 2019 –
 - Full tuition and stipend granted for 1st year of Ph.D. Program
 - **Doctoral Study Abroad Scholarship, KFAS** Sep 2019 –
 - Korea Foundation for Advanced Studies (KFAS)
 - A scholarship to fund graduate study in the US for about 30 most distinguished students in all majors, 2 in physics
 - 13,000 USD per year granted for US Ph.D. Program
 - **Physics Department Honorary Scholarship, KAIST** Sep 03 2018
 - Best performance award
 - A scholarship granted to students showing best academic performance
 - About 700 USD granted
 - **Undergraduate Student Scholarship, KFAS** Apr 2017– Present
 - Korea Foundation for Advanced Studies (KFAS)
 - A Scholarship to fund about 40 most distinguished students in all sciences
 - About 3800 USD per year granted until graduation
 - **Korea Presidential Science Scholarship, KOSAF** Mar 2015– Present
 - A scholarship to honor about 140 most distinguished freshmen in natural science of the nation
 - Full-tuition scholarship with stipend for undergraduate studies
 - Straight for 7 semesters
 - About 4400 USD per year granted for 4 years
 - **Full Tuition Scholarship, KAIST** Mar 2015– Present
 - Straight for 7 semesters

PUBLICATIONS B.S. THESIS

- [1] Core F. Park, Real time DAQ setup and dead-time measurement for CAPP 18T Dark Matter Axion Search and its first results, *Internal(KAIST)*, Dec 2018.

CONFERENCE PRESENTATIONS

- [1] Core F. Park, Dark Matter Axion Search Experiment using 18T HTS Magnet in *Stockholm International Youth Science Seminar 2018*, Stockholm, Sweden, Dec 2018.

POSTER PRESENTATIONS

- [2] Core F. Park, Dark Matter Axion Search Experiment using 18T HTS Magnet in *Stockholm International Youth Science Seminar 2018*, Stockholm, Sweden, Dec 2018.

- [1] Core F. Park, Data acquisition system for dark matter Axion search experiment using 18 T HTS magnet at CAPP/IBS in *Korean Physical Society 2018 Fall Meeting*, Changwon, Republic of Korea, Oct 2018.

ACADEMIC ACTIVITIES	<ul style="list-style-type: none"> ▪ 2018 KIAS-SNU Physics Winter Camp, Seoul, Republic of Korea Dec 26 2018–Jan 4 2019 <ul style="list-style-type: none"> • Best Project Award: Accretion of Supermassive Black Holes ▪ 2018 Stockholm International Youth Science Seminar, Stockholm, Sweden Dec 4 2018– Dec 11 2018 <ul style="list-style-type: none"> • Selected as the KAIST Representative for SIYSS 2018 • Selected as the Korean Representative for SIYSS 2018 ▪ 2018 APCTP-NIMS-KISTI-KASI Summer School on Numerical Relativity, NIMS, Daejeon, Republic of Korea Jul 23 2018– Jul 27 2018 <ul style="list-style-type: none"> • Participated as Summer Student ▪ 2018 APCTP-POSTECH Biophysics School, POSTECH, Pohang, Republic of Korea Jul 09 2018– Jul 11 2018 <ul style="list-style-type: none"> • Participated as Summer Student ▪ 2016 KAIST International Discovery Program, Munich, Germany Jan 24 2017– Jan 25 2017 <ul style="list-style-type: none"> • KAIST funding for students passionate and prepared for visiting and learning from foreign research labs • Visited Max Planck Institute of Physics, TUM, Excellence Cluster Universe • Selected among about 30 undergraduate and PhD teams ▪ 2014 Asian Science Camp (ASC 2014), NTU, Singapore Aug 20 2014– Aug 24 2014 <ul style="list-style-type: none"> • Selected as one of 12 national representatives • Participated as Korean delegation ▪ 2013 Molecular Frontiers Symposium (MFS 2013), Korea University, Seoul, Republic of Korea Oct 01 2013 <ul style="list-style-type: none"> • Participated as School representative
TEACHING AND EMPLOYMENT	<ul style="list-style-type: none"> ▪ General Physics 2 Tutor, KAIST Sep 2018 – Present ▪ General Physics 1 Tutor, KAIST Mar 2018 – Jun 2018 ▪ KAIST Physics Department Undergraduate Student Council Apr 2016 – Aug 2017 <ul style="list-style-type: none"> • International Coordinator • Department events manager ▪ General Physics 1 Tutor, KAIST Mar 2017 – Jun 2017 ▪ General Physics 2 Tutor, KAIST Dec 2016 – Sep 2016 ▪ General Physics 1 Tutor, KAIST Mar 2016 – Jun 2016
LANGUAGES	<ul style="list-style-type: none"> ▪ Korean: Native language ▪ English <ul style="list-style-type: none"> • Fluent, TOEFL iBT 114/120

- Total 5 years of English education:
English Kindergarten (2000-2002, JCC Kindergarten, NY, USA)
Council Rock Primary School (2002-2003, NY, USA)
English Native Program (2010, Lycee International Ferney-Voltaire, France)

▪ French

- Native, TCF: Total: 599, Listening: C1, Proficiency in language structures: C2, Reading: C1 (Common European Framework)
- Total 6 years of French education:
Lycee International Xavier CE2 - 5^e (2005-2009, Seoul, Korea)
Lycee International Ferney-Voltaire 5^e - 4^e (2010, Ferney-Voltaire, France)

▪ Spanish (Novice)

SKILLS

▪ Methods

- Monte Carlo, Machine Learning(Basic), N-Body simulation

▪ Programming and Computing Tools

- Linux, C++, Java, Python, JavaScript, GPU CUDA

▪ Scientific tools

- ROOT(from CERN), L^AT_EX, MATLAB, Mathematica, LabView, Fusion360 CAD, Adobe Illustrator

**PERSONAL
INTERESTS**

▪ Sports

- Soccer, Swimming, Frisbee, Tennis

REFERENCES

▪ Professor Hawoong Jeong, Adviser

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▪ Professor Jonghee Yoo, Research Adviser

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