

# 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,**  
**Hansung Science High School** Aug 2014

- 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

- **2018 KIAS-SNU Physics Winter Camp,**  
**Seoul, Republic of Korea** Dec 26 2018–Jan 4 2019
  - Best Project Award: Accretion of Supermassive Black Holes
- **2018 Stockholm International Youth Science Seminar,**  
**Stockholm, Sweden** Dec 4 2018– Dec 11 2018
  - 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
  - Participated as Summer Student
- **2018 APCTP-POSTECH Biophysics School,**  
**POSTECH, Pohang, Republic of Korea** Jul 09 2018– Jul 11 2018
  - Participated as Summer Student
- **2016 KAIST International Discovery Program,**  
**Munich, Germany** Jan 24 2017– Jan 25 2017
  - 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
  - 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
  - Participated as School representative

## TEACHING AND EMPLOYMENT

- **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
  - 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

- **Korean: Native language**
- **English**
  - 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<sup>e</sup> (2005-2009, Seoul, Korea)  
Lycee International Ferney-Voltaire 5<sup>e</sup> - 4<sup>e</sup> (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<sup>A</sup>T<sub>E</sub>X, 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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