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EDUCATION

Feb. 2019 -	KAIST	Daejeon, Korea
Present	<i>Master's and Ph. D. integrated course in Physics</i>	
	■ Advisor: prof. Kab-Jin Kim	
	■ Affiliation: Ultrafast spin dynamics laboratory	
	■ Research field: Spintronics	
	■ Honors: National Science and Engineering Scholarship	
Feb. 2014 -	KAIST	Daejeon, Korea
Feb. 2019	<i>Bachelors of Science (double major: Physics, Electrical Engineering)</i>	
	■ Honors: National Science and Engineering Scholarship	

RESEARCH INTERESTS

- Spin dynamics in magnetic materials
 - ✓ Spin wave transmission measurement and its electrical control
 - ✓ Skyrmion, domain wall motion measurement using MOKE microscopy
 - ✓ Micromagnetic simulation (MUMAX³)
- Spintronic computing device applications
 - ✓ Logic device based on spin wave, skyrmion
 - ✓ Neuromorphic device application of spintronics

PUBLICATIONS

1. *Physical Review Applied* **11**, 024027 (2019)
“Omnidirectional spin wave array antenna”
Moojune Song, Kyoung-Woong Moon, Seungmo Yang, Chanyong Hwang, Kab-Jin Kim
2. *Applied Physics Express* **13**, 063002 (2020)
“Guiding of dynamic skyrmions using chiral magnetic domain wall”
Moojune Song, Kyoung-Woong Moon, Chanyong Hwang, Kab-Jin Kim

PATENTS

2. “Logic device using Skyrmion”, K. -J. Kim and M. Song, KR Patent Application, 10-2020-0060519 (2020)

1. "Skyrmion guiding device and its manufacturing method", K. -J. Kim and M. Song, KR Patent Application, 10-2020-0040921 (2020)

PRESENTATIONS

6. Oral presentation, *SNU - KAIST - POSTECH Young Physicist Workshop*, Daejeon, Korea (2020. 2. 3)
5. Poster presentation, *International Symposium on Magnetism and Magnetic Materials 2019, Korean Magnetics Society*, Jeju, Korea (2019. 11. 20)
4. Poster presentation, *Korean Physical Society Fall Meeting*, Gwangju, Korea (2019. 10. 23)
3. Poster presentation, *International School on Spintronics and Korea-Japan Spintronics Workshop*, Nagoya, Japan (2019. 1. 21)
2. Poster presentation, *International Symposium on Magnetism and Magnetic Materials 2018, Korean Magnetics Society*, Busan, Korea (2018. 11. 21)
1. Poster presentation, *Korean Physical Society Fall Meeting*, Changwon, Korea (2018. 10. 24)

AWARDS & HONORS

Mar. 2020 "Excellent Teaching Assistant Award", Department of Physics, KAIST
Nov. 2020 "Best Poster Presentation Award", *International Symposium on Magnetism and Magnetic Materials 2019*, Korean Magnetics Society
Sep. 2019 "Excellent Teaching Assistant Award", Department of Physics, KAIST
Feb. 2019 "Excellent Award", KAIST-URP (Undergraduate Research Program), KAIST
Nov. 2018 "Outstanding Presentation Award", *Korean Physical Society Fall Meeting 2018*, KPS

RESEARCH EXPERIENCES

Mar. 2018 - **KAIST, Ultrafast Spin Dynamics Laboratory** **Daejeon, Korea**
Feb. 2019 *Undergraduate Research Student*
(Advisor: prof. Kab-Jin Kim, Department of Physics)
■ Skyrmion, spin wave dynamics with OOMMF simulations
■ Supported by KAIST-URP (Undergraduate Research Program)

Dec. 2017 - **Tokyo Institute of Technology, Surface Science Laboratory** **Yokohama, Japan**
Feb. 2018 *Visiting Research Student*
(Advisor: prof. Masahiko Hara, Applied Chemistry Department)
■ Surface plasmon optics on metallic nanostructure (research title: Birefringent effects of TiO₂ Rutile substrate on plasmon resonance of metallic nanostructure)

Jun. 2016 - **KAIST, 3-Dimensional Micro-Nano Structure Laboratory** **Daejeon, Korea**
Aug. 2016 *Undergraduate Research Student*
(Advisor: prof. Jun-Bo Yoon, School of Electrical Engineering)
■ Developing Surface Enhanced Raman Spectroscopy (SERS) device using FDTD simulations

EXTRACURRICULAR ACTIVITIES & LEADERSHIP ROLES

Dec. 2017 -	Tokyo Tech Judo Club	Tokyo, Japan
Feb. 2018	<i>Team Member</i>	
Dec. 2017 -	Tokyo Institute of Technology	Tokyo, Japan
Feb. 2018	<i>Research-Oriented Exchange Student</i>	
	■ Department: Applied Chemistry, School of Materials and Chemical Technology	
	■ Honors: Japan Student Service Organization Scholarship	
April. 2017 -	KIT Judo Club	Karlsruhe, Germany
Aug. 2017	<i>Team Member</i>	
Mar. 2017 -	Karlsruhe Institute of Technology (KIT)	Karlsruhe, Germany
Aug. 2017	<i>Exchange Student</i>	
	■ Department: Department of Electrical Engineering and Information Technology	
	■ Honors: KAIST International Study Scholarship	
Mar. 2016 -	KAIST Tennis Club “Stroke”	Daejeon, Korea
Feb. 2019	<i>Team Member, Training Leader’s Group</i>	
Mar. 2014 -	KAIST Judo Club “Polar Bears”	Daejeon, Korea
Present	<i>President, Team Captain</i>	
	■ 1st place on team game, Daejeon city Judo competition	
	■ 1st place on individual game, Seoul city Seodaemun-gu competition	

SKILLS & INTERESTES

Languages	English (proficient) Japanese (fluent daily and research conversation, JLPT N1) German (daily conversation, A2 level) Korean (native) C Python
Software	MUMAX³ (currently using for research, 1 year) OOMMF (1 and half year used for research)
Interests	Judo (black belt, 1 st Dan certificated), Brazilian Jiu-Jitsu (BJJ), Tennis, Golf