

# Youngjai Park

Last update: Mar 02, 2021.

Statistical Physics of Ecology and Evolution Group,  
Asia Pacific Center for Theoretical Physics (APCTP), 37673 Pohang, Republic of Korea

Mobile: +82-10-4505-2835

E-mail: [youngjai.park@apctp.org](mailto:youngjai.park@apctp.org)

Homepage: <https://youngjai.github.io/home>

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## Education

### Postdoctoral Researcher

Starting Mar 2021.

Statistical Physics of Ecology and Evolution Group,  
Asia Pacific Center for Theoretical Physics (APCTP), Republic of Korea

### *Ph.D.* in Applied Physics

Mar 2016 – Feb 2021.

Department of Applied Physics, Hanyang University, Republic of Korea  
Thesis: Network stylometry in complex systems: focused on the motif structures  
Thesis Advisor: Prof. Seung-Woo Son

### *B.Sc.* in Applied Physics

Mar 2010 – Feb 2016.

Department of Applied Physics, Hanyang University, Republic of Korea

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## Experience

### NRF - GRA program in Canada

Aug 2018 – Jan 2019.

Department of Physics and Astronomy, University of Calgary, Canada

### Research & Teaching Assistant

Mar 2016 – Aug 2018.

Department of Applied Physics, Hanyang University, Republic of Korea

- General Physics Lab. 1
- Computational Physics
- Applications of Computational Physics
- Scientific Analysis and Presentation

### Relevant activity

Apr 2014 – Aug 2015.

- UST research internships, Korea Electrotechnology Research Institute (KERI) & University of Science and Technology (UST), Republic of Korea (August 2015); KOSAF Working scholarship in KERI (April 2014).
  - Understand how gyrtron works and quasi-optical (QO) system.
  - Simulate magnetron injection gun (MIG), which is part of gyrotron, with egun program & Matlab.

### Korean military service

Mar 2011 – Dec 2012.

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### Trainings

- 2017 NIMS Study Group with Industry, National Institute for Mathematical Sciences (NIMS) & Innovation Center for Industrial Mathematics (ICIM), Republic of Korea (December, 2017).
- 16th APCTP Science Communication School, Asia Pacific Center for Theoretical Physics (APCTP), Republic of Korea (February 2017).
- 2016 Summer Special Lecture, Korea Academy of Complexity Studies (KACS), Republic of Korea (August 2016).
- 2016 NIMS-SKKU MDA-TDA Summer School, National Institute for Mathematical Sciences (NIMS), Republic of Korea (June 2016).

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### Honor and Award

#### Awards

- **Best award**, 2017 KACS autumn conference (November 2017).
- **Best award**, The 8th KIAS CAC Summer School, Republic of Korea (July 2017).
- **Excellent Presentation Award**, 16th APCTP Science Communication School, Republic of Korea (February 2017).
- **Encouragement Prize**, Best Paper Competition commemorating the 2016 International Council on Archives Congress Presidential Archives, Republic of Korea (December 2016).
- **Best Poster Presentation**, 2016 KPS spring conference, Republic of Korea (April 2016).
- **Excellence Award**, 2015 Applied Science Capstone Design Competition, Republic of Korea (November 2015).

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### Publication

- **Youngjai Park**, Mi Jin Lee, and Seung-Woo Son, Motif Dynamics in Signed Directional Complex Networks, arXiv:2012.06255 (2020).
- **Young-Jai Park** *et al.*, Korean Football Stylometry by Using the Football Events Networks, New Physics: Sae Mulli **68**, 642 (2018).
- Young Jin Kim, Sohee Lim, **Young-Jai Park**, and Seung-Woo Son, Quantitative Analysis of K-Pop Writers' Network by Using K-Pop Lyrics, New Physics: Sae Mulli **68**, 700 (2018).
- **Young-Jai Park** *et al.*, Network Analysis in Korean Presidential Speeches by Using Word2Vec, New Physics: Sae Mulli **67**, 569 (2017).
- **Youngjai Park**, Hye Jin Park, and Seung-Woo Son, Diversity and Stability on an Open Evolving Network Model, (in preparation).

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### Presentation

- **Diversity and Stability on an Open Evolving Network Model**, 2020 KPS fall conference, Online, Republic of Korea (November, 2020); 2020 MEE workshop, Online, Republic of Korea (August, 2020).
  - **Evolving open system with Lotka-Volterra dynamics**, RHINO 2020, Online, Republic of Korea (August, 2020); 2020 KPS spring conference, Online, Republic of Korea (July, 2020).
  - **Motif Dynamics on Signed Directed Complex Networks**, 2019 KPS fall conference, Gwangju, Republic of Korea (October, 2019); The 20th Workshop for Statistical Physics, Byeonsan, Republic of Korea (August 2019); 2019 KPS spring conference, Daejeon,
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Republic of Korea (April 2019); Dynamics Days 2019, Evanston, United States (January 2019).

- **Enhanced Approach of Extreme-Ultraviolet Resist Considering Polymer Chain Interaction for Line Edge Roughness Improvement**, SPIE. Advanced Lithography 2019, San Jose, United States (February 2018).
  - **Football Stylometry with Football Event Network Analysis**, 2017 KACS autumn conference, Seoul, Republic of Korea (November 2017); Korean society of Science & Football, Seoul, Republic of Korea (June 2017).
  - **Motifs dynamics on a network model of evolving open system**, 2017 KPS fall conference, Gyeongju, Republic of Korea (October 2017); The 2nd Workshop on Self-Organization and Robustness of Evolving Many-Body Systems, Sapporo, Japan (September 2017).
  - **Microscopic network structures on a model of evolving open system**, The 19th Workshop for Statistical Physics, Mungyeong, Republic of Korea (August 2017).
  - **Growth conditions on a model of evolving open system**, 2017 KPS spring conference, Daejeon, Republic of Korea (April 2017).
  - **Network analysis in various system**, Mini-Workshop on Social Modeling and Simulation and Hands-on Tutorial of OACIS, Kobe, Japan (March 2017).
  - **Network analysis in Korean presidential speeches by using Word2Vec**, 2016 KACS autumn conference, Seoul, Republic of Korea (November 2016); NSPCS16, Hoegi, Republic of Korea (July 2016).
  - **Chronological Changes in the Spoken Word Networks of Korean Presidents**, NetSci2016, Seoul, Republic of Korea (May 2016); 2016 KPS spring conference, Daejeon, Republic of Korea (April 2016).
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