

# Hye Jin Park | Curriculum Vitæ

Department of Evolutionary Theory  
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## Research Experience

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**Max-Planck Institute for Evolutionary Biology**  
*PostDoc*

**Plön, Germany**  
*2016.09–present*

## Education

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**Sungkyunkwan University**

*Ph. D. in physics*

Title: Statistical physics approach to social phenomena

Advisor: Beom Jun Kim

**Suwon, Korea**

*2011–2016*

*B. Sc. in Physics*

*2007–2011*

## Research Subject

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- Evolutionary game dynamics
- Ecological and evolutionary dynamics
- Computational social science
- Spin system

## Publications

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- [14] **Park, H. J.**, B. J. Kim, H.-C. Jeong, C. Hilbe, and M. Nowak, Vacancies in a growing habitat and the evolution of cooperation, in preparation.
- [13] C. S. Gokhale and **Park, H. J.**, Eco-evolutionary spatial dynamics of non-linear social dilemmas, submitted.
- [12] Y. Pichugin, **Park, H. J.**, and A. Traulsen, Evolution of simple multicellular life cycles in dynamic environments, submitted.
- [11] **Park, H. J.**, Y. Pichugin, W. Huang, and A. Traulsen, Population size changes and extinction risk of populations driven by mutant interactors, *Phys. Rev. E* 99 (2019) 022305.
- [10] **Park, H. J.** and C. S. Gokhale, Ecological feedback on diffusion dynamics, *Royal Society Open Science* 6 (2019) 181273.
- [9] **Park, H. J.**, W. S. Jo, S. H. Lee, and B. J. Kim, Generalized Gravity Model for Human Migration, *New J. Phys.* 20 (2018) 093018.

- [8] S.-G. Yang, **Park, H. J.**, and B. J. Kim, Dynamic critical behavior of the one-dimensional XY model with long-range interaction, Phys. Rev. E 98 (2018) 032120.
- [7] **Park, H. J.** and A. Traulsen, Extinction dynamics from meta-stable coexistences in an evolutionary game, Phys. Rev. E 96 (2017) 042412.
- [6] **Park, H. J.**, B. J. Kim, H.-C. Jeong, Role of generosity and forgiveness: Return to cooperative society, Phys. Rev. E 95 (2017) 042314.
- [5] **Park, H. J.**, S. D. Yi, D. J. Kim, B. J. Kim, Network of likes and dislikes: Conflict and membership, Physica A 461 (2016) 647–654.
- [4] S. K. Baek, **Park, H. J.**, B. J. Kim, Anomalous response in the vicinity of spontaneous symmetry breaking, Eur. Phys. J. B 88 (2015) 127.
- [3] **Park, H. J.**, S. K. Baek, B. J. Kim, Stochastic resonance in the two-dimensional q-state clock models, Phys. Rev. E 89 (2014) 032137.
- [2] S. K. Baek, I. G. Yi, **Park, H. J.**, B. J. Kim, Statistics of the knockout tournament, Scientific Reports 3 (2013) 3198.
- [1] **Park, H. J.**, H. Sim, H.-H. Jo, B. J. Kim, Analysis of one-dimensional yut-nori game: winning strategy and avalanche-size distribution, J. Korean Phys. Soc. 63 (2013) 1497.

## Honors

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**Awards:** Young Statistical Physicist Award from Korea Physics Society, Daejeon, Korea, 25 April 2018

**Awards:** Best Poster Award from Statphys26, Lyon, France, 18-22 July 2016

**Awards:** Best Presentation Award from Complexity Research and Education Network, Korea, 2013

**Scholarships:** Lotte Scholarship (2011-2, 2012-1)

### Invited Talk.....

- "Fate of populations in a stochastic system with mutations", Pukyong National University (PKNU), Busan, Korea, May 7, 2018.
- "Ecological feedback on evolutionary spatial dynamics with social dilemmas", Mini symposium in Mathematical Models in Ecology and Evolution (MMEE), London, United Kingdom, July 10-12, 2017.
- "Extinction dynamics from meta-stable coexistences", Korea Institute for Advanced Study (KIAS), Seoul, Korea, April 28, 2017.
- "Vacancies in a growing habitat and the evolution of cooperation", Department of Evolutionary Theory, Max Planck Institute for Evolutionary Biology, Plön, Germany, May 10th, 2016.
- "Vacancies in a growing habitat and the evolution of cooperation", Program for Evolutionary Dynamics, Harvard University, US, August 26th, 2015.

## Activities

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### Workshop.....

- Organizing the workshop "Evolution of interacting populations", MPI for Evolutionary Biology, Plön, Germany, September 15-17, 2019.

## Conferences .....

- "Vacancies in a growing habitat and the evolution of cooperation", Workshop: Evolutionary models of structured populations, Plön, Germany, September 05-07, 2018.
- "Fate of populations in a stochastic system with mutations", ECMTB, Lisbon, Portugal, July 23-27, 2018.
- "Coevolution of populations and resource: resource feedback to public goods game", KPS, Daejeon, Korea, April 25-27, 2018.
- "Evolution of carrying capacity induced from mutation and extinction of populations in a stochastic system", KPS, Daejeon, Korea, April 25-27, 2018.
- "Evolution of carrying capacity and extinction of populations in a stochastic system", DPG, Berlin, Germany, March 12-16, 2018.
- "Fate of populations: Carrying capacity changes induced from mutants in a stochastic system", BIFI 2018 Conference, Zaragoza, Spain, February 6-8, 2018.
- "Extinction behavior from coexistence of two types", Korea Physics Society (KPS) spring meeting, Daejeon, Korea, April 19-21, 2017.
- "Extinction properties in the coexistence two-species population induced by demographic fluctuation", DPG, Dresden, Germany, March 21, 2017.
- "Emergence of cooperation: Growing habitat with empty sites", STATPHYS 26, Lyon, France, July 18, 2016.
- "Configuration network constructed from two-dimensional Ising model", NetSci 2016, Seoul, Republic of Korea, June 1, 2016.
- "Generosity enhances cooperation in reputation-based prisoner's dilemma game", Granada Seminar on computational and statistical physics, La Herradura, Granada, Spain, June 15-19, 2015
- "Stochastic resonance in the 2-dimensional q-state clock model", 25th International Conference on Statistical Physics of the International Union of Pure and Applied Physics (STATPHYS 25), Seoul, Republic of Korea, July 26, 2013.