Curriculum Vitae

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PhD
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Education

- 1996.03~2004.02, Ba in Physics, Korea University, Seoul, Korea
- 2004.03~2017.02, PhD in Physics, Korea University, Seoul, Korea

Research Projects

- 2015.01~2017.12, 포스트 게놈 다부처 유전체 사업, 재래가축 표준 유전체지도 작성 및 특성 규명 (Construction of reference genome maps of Livestock)
- 2015.01~(the present), 포스트게놈 다부처 유전체 사업, 멀티 오믹스 분석 알고리즘 및 플랫폼 개발 (Developmet of algorithms and platforms for the analysis of multi-omics data)
- 2015.12~(the present), 질환 유전자 분석 플랫폼 기술개발 사업, 암 개인맞춤 치료를 위한 고정밀-고효율의 다중오믹스기반 암유전체 분석 소프트웨어 개발 및 임상적용 인증 (Development of high-precision and high-performance multiomics cancer genome analysis software for targeted therapeutics and certification for clinical application)
- 2017.06~2019.05, Grant, Basic Science Research Program through the National Research Foundation of Korea (NRF No. 2017R1A6A3A11034703)

Honors & Awards

- Excellence Poster Award, The 28th International KOGO Annual Conference, Seoul, Korea (Sep 4-6, 2019).
- Best Poster Award, BIOINFO2019, The 15th International Conference on Bioinformatics, Seoul, Korea (Aug 26-27, 2019).

Patents

- PCT/KR2018/014079 출원

Publications

- (submitted) A Vipin Menon, **Jang-il Sohn**, and Jin-Wu Nam, "CGD: Comprehensive Guide Designer for CRISPR-Cas Systems", Computational and Structural Biotechnology Journal (CSBS).
- (preparing) Min-Hak Choi† , **Jang-il Sohn**† , Dohun Yi† , Jin-Wu Nam, "ETCHING: Efficient Detection of Chromosomal Rearrangements Using a Scalable k-mer Database of Multiple Reference Genomes and Variations".
- (preparing) **Jang-il Sohn**, Jin-Wu Nam, "A novel strategy to correct sequencing errors in single molecule sequencing reads using fast Fourier transform and bipartite graph".
- **Jang-il Sohn**, Jin-Wu Nam "The present and future of de novo whole-genome assembly", Briefings in Bioinformatics 19, 23-40 (2018).
- **Jang-il Sohn**†, Kyoungwoo Nam†, Hyosun Hong†, Jun-Mo Kim, Dajeong Lim, Kyung-Tai Le, Yoon Jung Do, Chang Yeon Cho, Namshin Kim, Han-Ha Chai, Jin-Wu Nam, "Whole genome and transcriptome maps of the entirely black native Korean chicken breed Yeonsan Ogye", GigaScience 7(7), 1 (2018).
- **Jang-il Sohn**, "Critical time scale of coarse-graining entropy production", Physics Review E 93, 042121 (2016).
- **Jang-il Sohn**, "An Example of Temporal Coarse-Graining of Entropy Production", The European Physical Journal B 88, 228 (2015).
- Jeehye Choi, Jang-il Sohn, K.-I. Goh and I.-M. Kim, "Modeling the mobility with memory", Europhysics Letters 99 50001 (2012).
- Wooseop Kwak, Jae-Suk Yang, **Jang-il Sohn**, and In-mook Kim, "Critical behavior of the XY model on growing scale-free networks", Phys. Rev. E 75, 061130 (2007).
- Wooseop Kwak, Jae-Suk Yang, **Jang-il Sohn**, and In-mook Kim, "Critical behavior of the majority voter model is independent of transition rates", Phys. Rev. E 75, 061110 (2007).

† Equally contributed

Posters

- **Jang-il Sohn**, Jin-Wu Nam, "A novel strategy to correct sequencing errors in single molecule sequencing reads using fast Fourier transform and bipartite graph", The 28th International KOGO Annual Conference, Seoul, Korea (Sep 4-6, 2019). <Excellence Poster Award>
- Min-Hak Choi† , **Jang-il Sohn**† , Dohun Yi† , Jin-Wu Nam, "ETCHING: Efficient Detection of Chromosomal Rearrangements Using a Scalable k-mer Database of Multiple Reference Genomes and Variations", The 28th International KOGO Annual Conference, Seoul, Korea (Sep 4-6, 2019).
- **Jang-il Sohn**, Jin-Wu Nam, "A novel strategy to correct sequencing errors in single molecule sequencing reads using fast Fourier transform and bipartite graph", BIOINFO2019, The 15th International Conference on Bioinformatics, Seoul, Korea (Aug 26-27, 2019). <Best Poster Award>
- Min-Hak Choi† , **Jang-il Sohn**† , Dohun Yi†, Jin-Wu Nam, "ETCHING: Efficient Detection of Chromosomal Rearrangements Using a Scalable k-mer Database of Multiple Reference Genomes and Variations", BIOINFO2019, The 15th International Conference on Bioinformatics, Seoul, Korea (Aug 26-27, 2019).

- **Jang-il Sohn**†, Kyoungwoo Nam†, Hyosun Hong†, Jin-Wu Nam, "Multiomics Study of Entire Black Chicken Breed, Yeonsan Ogye", Plant and Animal Genomics (PAG) Asia 2017, Seoul, Korea (May 29-31, 2017).
- Kyoungwoo Nam†, Hyosun Hong†, **Jang-il Sohn**†, Jin-Wu Nam, "Hybrid genome assembly of Ogye (Gallus gallus domesticus) using short and long reads and annotations of noncoding genes", Intelligent Systems for Molecular Biology (ISMB) 2016, Orlando, Florida (July 8-12, 2016).
- **Jang-il Sohn**, "The House-Keeping Entropy Production is Hidden in the Limit of Long Time Scale", 25'th IUPAP International Conference on Statistical Physics (Jul. 2013).
- **Jang-il Sohn**, "The Fluctuation Theorems in Three Different Time Scales", The University of Tokyo - Korea University The 2'nd Joint Workshop on Bio-Soft Matter (Feb. 2013).
- Jeehye Choi, **Jang-il Sohn**, K.-I. Goh and I.-M. Kim, "Modeling Random Walk with Memory", 25'th IUPAP International Conference on Statistical Physics (Jul. 2013).
- **Jang-il Sohn**, "Three Detailed Balance Fluctuation Theorems in Another Way", The 5'th KIAS Conference on Statistical Physics (Jul. 2012).
- Jeehye Choi, **Jang-Il Sohn**, Kwang-Il Goh, In-Mook Kim, "Modeling Mobility with Memory", The University of Tokyo - Korea University The 1'st Joint Workshop on Bio-Soft Matter (Fab. 2011).
- Jeehye Choi, **Jang-Il Sohn**, K.-I. Goh and I.-M. Kim, "Random-walk Model of Limited Mobility with Memory", Korean Physical Society (Apr. 2011).
- **Jang-il Sohn**, Wooseop Kwak, Jae-Suk Yang, In-mook Kim, "Critical Properties of Majority Voter Model and Their Dependence of the Dynamics", Statistical Physics Division, Korean Physical Society (Apr. 2007).
- Jae-Suk Yang, Wooseop Kwak, **Jang-il Sohn**, In-mook Kim, "Critical Behavior of the XY Model on Growing Scale Free Network", Statistical Physics Division, Korean Physical Society (Apr. 2007).
- Wooseop Kwak, Jae-Suk Yang, **Jang-il Sohn**, In-mook Kim, D.P. Landau, "Sub-block Order Parameter in a Driven Ising Lattice Gas Using Block Distribution Function", Statistical Physics Division, Korean Physical Society (Apr. 2007).
- Wooseop Kwak, **Jang-il Sohn**, In-mook Kim, "Oscillation Phase in the 2 Dimensional Con- served Lattice Gas at Zero Temperature", Statistical Physics Division, Korean Physical Society (Apr. 2006).
- **Jang-il Sohn**, Hyun-Joo Kim, In-mook Kim, "Scale-Free Network Model with Discreet Weight", Statistical Physics Division, Korean Physical Society (Apr. 2005).
- **Jang-il Sohn**, In-mook Kim, "Modified model for the first order phase transition of a driven interface in disordered mdeia", Statistical Physics Division, Korean Physical Society (Apr. 2004).
- **Jang-il Sohn**, Sehoon Kang, In-mook Kim, "Equilibrium vs. Non-equilibrium Conserved Lattice Gas Model", Statistical Physics Division, Korean Physical Society (Oct. 2004).

† Equally contributed