

# Curriculum Vitae

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### RESEARCH EXPERIENCE

- 2019.3.-present     **Associate Professor**
- 2015.10.-2019.2.   **Assistant Professor**  
Graduate School of Medical Sciences and Engineering, KAIST, Daejeon, Korea
- 2013.4.-2015.10.   **Postdoctoral Fellow**  
Cancer Genome Project, Wellcome Trust Sanger Institute, Hinxton, UK  
Postdoctoral fellow, Advisors: Prof. Mike Stratton & Dr. Peter Campbell
- 2010.3.-2013.3.     **Postdoctoral Research** (Substitution of mandatory military service)  
Researcher, Life Science Institute, Macrogen Inc., Korea

### EDUCATION AND TRAINING

- 2007.3.-2010.2.     **Ph.D.** (Advisor: Prof. Jeong-Sun Seo)  
Dept. of Biochemistry, Seoul National University College of Medicine, Seoul, Korea
- 2001.3.-2007.2.     **M.D.** (B.S in Medicine)  
Seoul National University College of Medicine, Seoul, Korea

### PUBLICATIONS *In reverse chronological orders.* (#, corresponding author; \* first author)

44. Lee JJ-K, Park S, Park H, Kim S, Lee J, ... , **Ju YS#** & Kim YT#. Tracing oncogene rearrangements in the mutational history of lung adenocarcinoma. *Cell*. 2019 May 30; *Epub ahead of print*.
43. Petljak M, Alexandrov LB, Brammell JS, Price S, Wedge DC, ... , & Stratton MR. Characterizing mutational signatures in human cancer cell lines reveals episodic APOBEC mutagenesis. *Cell*. 2019 Mar7;176(6):1282-1294 PMID:30849372.
42. Park ES, Lee AR, Kim DH, Lee JH, Yoo JJ, .... & Kim KH. Identification of a quadruple mutation that confers tenofovir resistance in chronic hepatitis B patients. *J Hepatol*. 2019 Feb 19; *Epub ahead of print* PMID:30794889.
41. Choi W, Namkung J, Hwang I, Kim H, Lim A, ... & Kim H. Serotonin signals through a gut-liver axis to regulate hepatic steatosis. *Nat Commun*. 2018 Nov 16;9(1):4824. PMID:30446669.
40. Kim HD, Song GW, Park S, Jung MK, Kim MH, ... & Park SH. Association between expression level of PD1 by tumor-infiltrating CD8+ T cells and features of hepatocellular carcinoma. *Gastroenterology*. 2018 Dec;155(6):1936-1950. PMID:30145359.
39. (Review) Yi K and **Ju YS#**. Patterns and mechanisms of structural variations in human cancer. *Exp Mol Med*. 2018 Aug 7;50(8):98. PMID:30089796.
38. Lee JH, Lee JE, Kahng JY, Kim SH, Park JS, ... & Lee JH. Human glioblastoma arises from subventricular zone cells with low-level driver mutations. *Nature*. 2018 Aug;560(7717):243-247. PMID: 30069053.

37. Lee J, Lee AJ, Lee JK, Park J, Kwon Y, Park S, Chun H, **Ju YS#** & Hong D#. MUTALISK: a web-based somatic MUTation AnaLysis toolKit for genomic, transcriptional and epigenomic signatures. *Nucleic Acids Res.* 2018 Jul 2;46(W1):W102-W108. PMID:29790943.
36. Cho SY, Sung CO, Chae J, Lee J, Na D, ..., & Lee C. Alterations in the Rho pathway contribute to Epstein-Barr virus-induced lymphomagenesis in immunosuppressed environments. *Blood.* 2018 Apr 26;131(17):1931-1941. PMID:29475961.
35. Kim IK, KIM K, Lee E, Oh DS, Park CS, ..., & Kim I. Sox7 promotes high-grade glioma by increasing VEGFR2-mediated vascular abnormality. *J Exp Med.* 2018. Mar 5;215(3):963-983. PMID:29444818.
34. (Review) **Ju YS#**, The mutational signatures and molecular alterations of bladder cancer. *Transl Cancer Res.* 2017;6(Suppl 4):S689-S701
33. Lee JK., Lee J, Kim S, Kim S, Youk J, ..., Kim TM# & **Ju YS#**. Clonal history and genetic predictors of transformation into small cell carcinomas from lung adenocarcinomas. *Journal of Clinical Oncology* 2017 Sep 10;35(26):3065-3074. PMID:28498782
32. **Ju YS\***, Martincorena I, Gerstung M, Petljak M, Alexandrov LB, ... & Stratton MR. Somatic mutations reveal asymmetric cellular dynamics in the early human embryo. *Nature.* 2017 Mar 30;543(7647):714-718. PMID:28329761
31. Lee JK, Louzada S, An Y, Kim SY, Kim S, Youk J, Park S, ... Kim TM# & **Ju YS#**. Complex chromosomal rearrangements by single catastrophic pathogenesis in NUT midline carcinoma. *Ann Oncol.* 2017 Feb 14. 28(4):890-897. PMID:28203693
30. Alexandrov LB, **Ju YS**, Haase K, Van Loo P, Martincorena I, ... & Stratton MR. Mutational signatures associated with tobacco smoking in human cancer. *Science.* 2016 Nov 4;354(6312):618-622. PMID:27811275
29. Shlien A, Raine K, Fuligni F, Arnold R, Nik-Zainal S, ... & Campbell PJ. Direct transcriptional consequences of somatic mutation in breast cancer. *Cell Rep.* 2016 Aug 16;16(7):2032-46. PMID:27498871
28. Kemper K, Krijgsman O, Kong X, Cornelissen-Steijger P, Shahrabi A, ... & Peeper DS. BRAF(V600E) Kinase domain duplication identified in therapy-refractory melanoma patient-derived xenografts. *Cell Rep.* 2016 Jun 28;16(1):263-77. PMID:27320919
27. Nik-Zainal S, Davies H, Staaf J, Ramakrishna M, Glodzik D, ... & Stratton MR. Landscape of somatic mutations in 560 breast cancer whole-genome sequences. *Nature.* 2016 Jun 2;534(7605):47-54. PMID:27135926
26. (review) **Ju YS#**. Intracellular mitochondrial DNA transfers to the nucleus in human cancer cells. *Curr Opin Genet Dev.* 2016 Jun;38:23-30. PMID:27010587
25. Kim J, Kim S, Ko S, In YH, Moon HG, ... & Han W. Recurrent fusion transcripts detected by whole-transcriptome sequencing of 120 primary breast cancer samples. *Genes Chromosomes Cancer.* 2015 Nov;54(11):681-91. PMID:26227178
24. Yates LR, Gerstung M, Knappskog S, Desmedt C, Gundem G, ... & Campbell PJ . Subclonal diversification of primary breast cancer revealed by multiregion sequencing. *Nat Med.* 2015 Jul;21(7):751-9. PMID:26099045
23. **Ju YS\***, Tubio JM, Mifsud W, Fu B, Davies HR, ... & Stratton MR. Frequent somatic transfer of mitochondrial DNA into the nuclear genome of human cancer cells. *Genome Res.* 2015 Jun;25(6):814-24. PMID:25963125
22. **Ju YS\***, Alexandrov LB, Gerstung M, Martincorena I, Nik-Zainal S, ... & Campbell PJ. Origins and functional consequences of somatic mitochondrial DNA mutations in human cancer. *eLife.* 2014 Oct 1;3. PMID:25271376
21. Tubio JM, Li Y, **Ju YS**, Martincorena I, Cooke SL, ... & Campbell PJ. Extensive transduction of nonrepetitive DNA mediated by L1 retrotransposition in cancer genomes. *Science.* 2014 Aug 1;345(6196):1251343. PMID:25082706
20. Go H, Jung YJ, Kang HW, Park IK, Kang CH, ... & Kim YT. Diagnostic method for the detection of KIF5B-RET transformation in lung adenocarcinoma. *Lung Cancer.* 2013 Oct;82(1):44-50. PMID:23932363
19. Kim HJ, Yoo YJ, **Ju YS**, Lee S, Cho SI, ... & Seo JS. Combined linkage and association analyses identify a novel locus for obesity near PROX1 in Asians. *Obesity.* 2013 Nov;21(11):2405-12. PMID:23818313
18. Hong D, Lee J, Bleazard T, Jung H, **Ju YS**, ... & Seo JS. TIARA genome database: update 2013. *Database (Oxford).* 2013 Mar 20;2013:bat003. PMID:23515433
17. Bleazard T, **Ju YS**, Sung J & Seo JS. Fine-scale mapping of meiotic recombination in Asians. *BMC Genet.* 2013 Mar 8;14:19. PMID:23510153
16. Park H, Kim HJ, Lee S, Yoo YJ, **Ju YS**, ... & Seo JS. A family-based association study after genome-wide linkage analysis identified two genetic loci for renal function in a Mongolian population. *Kidney Int.* 2013 Feb;83(2):285-92. PMID:23254893
15. Park H, Lee S, Kim HJ, **Ju YS**, Shin JY, ... & Seo JS. Comprehensive genomic analyses associate UGT8

- variants with musical ability in a Mongolian population. *J Med Genet.* 2012 Dec;49(12):747-52. PMID:23118445
14. Seo JS\*, **Ju YS\***, Lee WC\*, Shin JY, Lee JK, ..., Kim YT. The transcriptional landscape and mutational profile of lung adenocarcinoma. *Genome Res.* 2012 Nov;22(11):2109-19. PMID:22975805
  13. Hong D, Rhie A, Park SS, Lee J, **Ju YS**, ... & Seo JS. FX: an RNA-Seq analysis tool on the cloud. *Bioinformatics.* 2012 Mar 1;28(5):721-3. PMID:22257667
  12. Paik SH, Kim HJ, Son HY, Lee S, Im SW, **Ju YS**, ... & Kim JI. Gene mapping study for constitutive skin color in an isolated Mongolian population. *Exp Mol Med.* 2012 Mar 31;44(3):241-9. PMID:22198297
  11. **Ju YS\***, Lee WC, Shin JY, Lee S, Bleazard T, ... & Seo JS. A transforming KIF5B and RET gene fusion in lung adenocarcinoma revealed from whole-genome and transcriptome sequencing. *Genome Res.* 2012 Mar;22(3):436-45. PMID:22194472
  10. Paik SH, Kim HJ, Lee S, Im SW, **Ju YS**, ... & Kwon OS. Linkage and association scan for tanning ability in an isolated Mongolian population. *BMB Rep.* 2011 Nov;44(11):741-6. PMID:22118541
  9. **Ju YS\***, Kim JI\*, Kim S\*, Hong D, Park H, ... & Seo JS. Extensive genomic and transcriptional diversity identified through massively parallel DNA and RNA sequencing of eighteen Korean individuals. *Nat Genet.* 2011 Jul 3;43(8):745-52. PMID:21725310
  8. Hong D\*, Park SS\*, **Ju YS\***, Kim S, Shin JY, ... & Seo JS. TIARA: a database for accurate analysis of multiple personal genomes based on cross-technology. *Nucleic Acids Res.* 2011 Jan;39(Database issue):D883-8. PMID:21051338
  7. (research highlight) **Ju YS\***, Yoo YJ, Kim JI & Seo JS. The first Irish genome and ways of improving sequence accuracy. *Genome Biol.* 2010;11(9):132. PMID:20815917
  6. **Ju YS\***, Hong D\*, Kim S\*, Park SS, Kim S, ... & Seo JS. Reference-unbiased copy number variant analysis using CGH microarrays. *Nucleic Acids Res.* 2010 Nov;38(20):e190. PMID:20802225
  5. Park H\*, Kim JI\*, **Ju YS\***, Gokcumen O, Mills RE, ... & Seo JS. Discovery of common Asian copy number variants using integrated high-resolution array CGH and massively parallel DNA sequencing. *Nat Genet.* 2010 May;42(5):400-5. PMID:20364138
  4. Kim JI\*, **Ju YS\***, Park H, Kim S, Lee S, ... & Seo JS. A highly annotated whole-genome sequence of a Korean individual. *Nature.* 2009 Aug 20;460(7258):1011-5. PMID:19587683
  3. Lee JE, Park H, **Ju YS**, Kwak M, Kim JI, ... & Seo JS. Higher mitochondrial DNA copy number is associated with lower prevalence of microalbuminuria. *Exp Mol Med.* 2009 Apr 30;41(4):253-8. PMID:19299914
  2. **Ju YS\***, Park H, Lee MK, Kim JI, Sung J, ... & Seo JS. A genome-wide Asian genetic map and ethnic comparison: the GENDISCAN study. *BMC Genomics.* 2008 Nov 25;9:554. PMID:19025666
  1. Gombojav B, Park H, Kim JI, **Ju YS**, Sung J, ... & Seo JS. Heritability and linkage study on heart rates in a Mongolian population. *Exp Mol Med.* 2008 Oct 31;40(5):558-64. PMID:18985014

## **FELLOWSHIP & AWARDS**

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|-----------|--|
| 2019-     | Scientific fellowship from Suh Kyungbae Research Foundation (SUHF)                 |
| 2018-     | HFSP Young Investigator Grants (with BK Koo at IMBA and Snippert H at UMC Utrecht) |
| 2018-     | Member of Y-KAST (Young Korean Academy of Science and Technology)                  |
| 2018-2019 | POSCO TJ Park Science Fellowship for Young Assistant Professors                    |
| 2013-2015 | EMBO Long Term Fellowship for Postdoctoral Research                                |
| 2010      | Wunsch Medical Award (for young medical scientist), Korean Society of Medicine     |
| 2010      | Best Ph.D. Dissertation Award, Korean Society for Molecular and Cellular Biology   |