Jonathan J. Park (updated as of 10/01/2021)

Education

2015-present	Yale University	**MD/PhD**, Medical Scientist Training Program Graduate Student in Department of Genetics
2012-2014	Yale College	**BS**, Molecular Cellular and Developmental Biology
2010-2012	Northwestern University	Biological Sciences

Research Experience

2018-present	Advisor:	Sidi Chen (Yale Systems Biology Institute)
	Topic(s):	Genome engineering of chimeric antigen receptor T cells; Tumor-immune interactions; High-throughput CRISPR genetic screens
2016-2018	Advisor:	Mark Gerstein (Yale Computational Biology and Bioinformatics Program)
	Topic(s):	Classifying tissue and extracellular miRNAs using machine learning methods; Integrative genomic analysis of brain regions (PsychENCODE Capstone project)
2014-2015,	Advisor:	Thomas Leto (National Institutes of Health)
2010-2011	Topic(s):	Transcriptional regulation of Nox4 expression and activity by p53 and SMAD3; Role of dual oxidases in inflammatory signaling of airway epithelial cells
2013-2014	Advisor:	Anjelica Gonzalez (Yale Department of Biomedical Engineering)
	Topic(s):	Leukocyte adhesion molecule expression patterns on endothelium
2010-2012	Advisor:	Alfonso Mondragón (Northwestern Department of Molecular Biosciences)
	Topic(s):	Structural character of DNA topoisomerase V
2009-2010	Advisors:	Nanofabrication & Devices Group (Argonne National Laboratory)
	Topic(s):	Electron beam induced silver nanoparticle deposition; Monte Carlo simulations

Peer-Reviewed Research Articles (* = co-first authors)

1. Yuan S*, Peng L*, **Park JJ**, Hu Y, Devarkar SC, Dong MB, Shen Q, Wu S, Chen S, Lomakin IB, Xiong Y. (2020) Nonstructural Protein 1 of SARS-CoV-2 Is a Potent Pathogenicity Factor Redirecting Host Protein Synthesis Machinery toward Viral RNA, *Molecular Cell* 80(6):1055-1066.

2. Wang G*, Chow RD*, Bai Z, Zhu L, Errami Y, Dai X, Dong MB, Ye L, Zhang X, Renauer PA, **Park JJ**, Shen L, Ye H, Fuchs CS, Chen S. (2019) Multiplexed activation of endogenous genes by CRISPRa elicits potent anti-tumor immunity, *Nature Immunology* 20(11):1494-1505.

3. Ye L*, **Park JJ***, Dong MB*, Yang Q, Chow RD, Peng L, Du Y, Guo J, Dai X, Wang G, Errami Y, Chen S. (2019) In vivo CRISPR screening in CD8 T cells with AAV-Sleeping Beauty hybrid vectors identifies membrane targets for improving immunotherapy for glioblastoma, *Nature Biotechnology* 37(11):1302-1313.

4. Dong MB*, Wang G*, Chow RD*, Ye L*, Zhu L, Dai X, **Park JJ**, Kim HR, Errami Y, Guzman CD, Zhou X, Chen KY, Renauer PA, Du Y, Shen J, Lam SZ, Zhou JJ, Lannin DR, Herbst RS, Chen S. (2019) Systematic Immunotherapy Target Discovery Using Genome-Scale In Vivo CRISPR Screens in CD8 T Cells, *Cell* 178(5):1189-1204.

5. Rozowsky R*, Kitchen RR*, **Park JJ***, Galeev TR, Diao J, Warrell J, Thistlethwaite W, Subramanian SL, Milosavljevic A, Gerstein M. (2019) exceRpt: A Comprehensive Analytic Platform for Extracellular RNA Profiling, *Cell Systems* 8(4):352-357.

6. Dai X*, **Park JJ***, Du Y, Kim HR, Wang G, Errami Y, Chen S. (2019) One-step generation of modular CAR-T with AAV-Cpf1, *Nature Methods* 16(3):247-254.

7. Codina A*, Renauer PA*, Wang G*, Chow RD*, **Park JJ**, Ye H, Zhang K, Dong M, Gassaway B, Ye L, Errami Y, Shen L, Chang A, Jain D, Herbst RS, Bosenberg M, Rinehart J, Fan R, Chen S. (2019) Convergent identification and interrogation of tumor-intrinsic factors that modulate cancer immunity in vivo, *Cell Systems* 8(2):136-151.
8. Wang D*, Liu S*, Warrell J*, Won H*, Shi X*, Navarro FCP*, Clarke D*, Gu M*, Emani P*, Yang YT, Xu M, Gandal MJ, Lou S, Zhang J, **Park JJ**, Yan C, Rhie SK, Manakongtreecheep K, Zhou H, Nathan A, Peters M, Mattei E, Fitzgerald D, Brunetti T, Moore J, Jiang Y, Girdhar K, Hoffman GE, Kalayci S, Gümüş ZH, Crawford GE; PsychENCODE Consortium, Roussos P, Akbarian S, Jaffe AE, White KP, Weng Z, Sestan N, Geschwind DH, Knowles JA, Gerstein MB. (2018) Comprehensive functional genomic resource and integrative model for the human brain, *Science* 8(27):44379-44397.
9. Boudreau HE, Ma WF, Korzeniowska A, **Park JJ**, Bhagwat MA, Leto TL. (2017) Histone modifications affect differential regulation of TGFbeta-induced NADPH oxidase 4 (NOX4) by wild-type and mutant p53, *Oncotarget* 8(27):44379-44397.
10. Rada B, **Park JJ**, Sil P, Geiszt M, Leto TL. (2014) NLRP3 inflammasome activation and interleukin-1beta release in macrophages require calcium but are independent of calcium-activated NADPH oxidases, *Inflammation Research* 63(10): 821-830.
11. Rada B, Boudreau HE, **Park JJ**, Leto TL. (2014) Histamine stimulates hydrogen peroxide production by bronchial epithelial cells via histamine H1 receptor and dual oxidase, *American Journal of Respiratory Cell and Molecular Biology* 50(1):125-34.
12. Rada B, Jendrysik MA, Pang L, Hayes CP, Yoo DG, **Park JJ**, Moskowitz SM, Malech HL, Leto TL. (2013) Pyocyanin-enhanced neutrophil extracellular trap formation requires the NADPH oxidase, *PLoS One* 8(1):e54205.
13. Ocola LE, Joshi-Imre A, Kessel C, Chen B, **Park J**, Gosztola D, Divan D. (2012) Growth characterization of electron-beam-induced silver deposition from liquid precursor, *Journal of Vacuum Science & Technology B* 30, 06FF08.

Other Publications

1. Wasalathanthri ND, Zaidi SS, Mahrt E, Srivastava S, Yu KH, Johansson KSL, Li F, Jimenez MFT, Lo C, Allareddy V, Romero-Molina C, Mosegaard S, Heaton SM, **Park JJ**, Bacon CD, Yu S, Polat EO, Wasalathanthri D, Wang W, Agarwal D. (2019) Challenging transitions, *Science* 363(6422):24-26.
2. Oehmke TB, Wu XY, Johnston JT, Gutiérrez C, Patel D, Moore EB, Lanzon E, Struett MM, Vergara AG, Agbaedeng TA, Sanganyado E, **Park JJ**, Halmhofer SJ, Nikolaou A, Mikhailova S, Winter KA, Gómez Luciano LB, Yang Z, Lang KM, Duong MT. (2019) Unique identities, *Science* 364(6435):22-24.

Presentations

1. **Park JJ**, Lee K, Lam S, Chen S. Immune repertoire specificity patterns and supervised learning for COVID-19. *Cold Spring Harbor Laboratory Single Cell Analyses Meeting*, virtual, 11/10/2021-11/12/2021 [Poster, upcoming]
2. **Park JJ**, Lee K, Lam S, Chen S. Identifying T cell receptor repertoire signatures associated with COVID-19 severity. *AMA Research Challenge*, virtual, 10/21/2021-10/23/2021 [Poster, upcoming]
3. **Park JJ**. Discovery of novel cancer immunotherapy targets with advanced CRISPR screens. *Yale Systems Biology Institute Seminar Series*, virtual, 10/13/2021 [Oral]
4. **Park JJ**, Ye L, Codina A, Dong MB, Yang Q, Lam S, Chow RD, Peng L, Clark P, Du Y, Guo J, Dai X, Zhou X, Wang G, Errami Y, Chen S. CRISPR screens with AAV-transposon and combinatorial knockout vectors identify immunotherapy targets. *NCI CSBC/PS-ON/BD-Step Junior Investigators Meeting*, virtual, 8/30/2021-8/31/2021 [Oral and Poster]
5. **Park JJ**. Modular engineering for CAR-T cells. *Yale Systems Biology Institute and Cancer Systems Biology Symposium*, West Haven, CT, 6/17/2019 [Oral]

6. Boudreau HE, **Park JJ**, Leto TL. Transcriptional co-regulation of Nox4 by p53 and SMAD3. *American Association for Cancer Research Annual Meeting*, Philadelphia, PA, 4/18/2015-4/22/2015 [Poster]

Other Presentations

1. Speech and Poster for *Yale MCDB Senior Thesis*, New Haven, CT, April 2014
2. Poster at *2011 NIH Summer Poster Day*, Bethesda, MD, August 2011
3. Poster at *XX International Materials Research Congress*, Cancún, Mexico, August 2011
4. Speech at *61st Annual Conference of the Canadian Society of Microbiologists*, St. John's, June 2011
5. Poster at *2010 NIH Summer Poster Day*, Bethesda, MD, August 2010
6. Speech and Poster at *American Junior Academy of Sciences Conference*, San Diego, CA, Feb 2010

Honors and Awards

2021	NCI Junior Investigator People's Choice Award
2019	Finalist for Edward L. Tatum Fellowship
2016	Yale Medicine Summer Research Fellowship, NHLBI Award T35HL007649
2014	NIH Postbac Intramural Research Training Award
2014	Cum Laude with Distinction in the Major
2013	Yale President's Public Service Fellowship
2013	Fisher House Foundation Scholarships for Military Children
2012	The Brady Scholars Program in Ethics and Civic Life
2012	The Barry Goldwater Scholarship

Service

2018-present	Graduate Student Research Mentor Mentored undergraduate and graduate students in the laboratory on experimental design and techniques, computational analysis, scientific writing and presentation, and general career planning.
2018-2019	Wednesday Evening Clinic Primary care provider for over 20 patients in the Greater New Haven area at student-run, longitudinal primary care clinic.
2016-2018	McGraw Hill Education Medical Student/Resident Advisory Board Review of the clinical quality and relevance of proposed content on McGraw Hill Education's AccessMedicine website, an online portal for medical information.
2016-2017	Students Helping Students Coordinator Organized supplemental medical education didactic sessions for junior students. Sessions were led by upper class students and incorporated concept review, study techniques, and problem sets to help junior students navigate the curriculum.
2016-2017	Anatomy Teaching Program Fellow Taught basic anatomy to high school students from Hill Regional Career High School. Activities ranged from observation of dissected cadavers, histology slide examination, to exploration of virtual anatomy iBooks.
2016-2017	Yale Health Screening Coordinator Provided free blood pressure and blood glucose screening, hygiene supplies, and referrals to community health resources in downtown New Haven.