**Education**

**Harvard University**

Cambridge, MA

A.M., Ph.D. Chemical Physics, 2006, 2011

Thesis: “Nano- and Micro-structured Interfaces For Interrogating Living Cells”

Advisor: Prof. Hongkun Park (Chemistry and Physics)

**Columbia University**

New York, NY

B.A. Chemical Physics, *Summa Cum Laude*, 2004

**Research and Teaching Experience**

**J. W. Kieckhefer Professor, Institute for Medical Engineering & Science and Department of Chemistry, MIT Effective 7/2023-Present**

**Full Professor, Department of Chemistry, MIT Effective 7/2023-Present**

**Associate Professor with Tenure, Department of Chemistry, MIT 2021-2023**

**Member, Ragon Institute of MGB, MIT, & Harvard 2020-Present**

**Associate Professor, Department of Chemistry, MIT 2019-2021**

**Institute Member, Broad Institute of MIT & Harvard 2019-Present**

**Extramural Member, Koch Institute for Integrative Cancer Research, MIT 2018-Present**

**Pfizer-Laubach Career Development Professorship, HST, MIT 2017-2020**

**Core Member, Institute for Medical Engineering & Science, MIT 2014-Present**

**Assistant in Immunology, MGB 2014-Present**

**Faculty, Harvard-MIT Health Sciences and Technology (HST), HMS 2014-Present**

**Associate Member, Ragon Institute of MGB, MIT, & Harvard 2014-2020**

**Assistant Professor, Department of Chemistry, MIT 2014-2019**

**Associate Member, Broad Institute of MIT & Harvard 2014-2018**

**Hermann L.F. Von Helmholtz Career Development Professor, HST, MIT 2014-2017**

My research program is directed to the development and application of new technologies – rooted in nanotechnology and chemical biology – that facilitate our understanding of how cells collectively perform systems-level functions in healthy and diseased states.

**Postdoctoral Fellow 2011-2014**

Prof. Hongkun Park & Prof. Aviv Regev

Harvard University & Broad Institute of MIT and Harvard

Developed nano- and micro-scale technologies for perturbing and profiling single cells and cell populations. Applied these platforms to dissect naïve T cell differentiation and factors governing heterogeneity in the dendritic cell response to pathogens.

**Graduate Research Associate 2004-2011**

Prof. Hongkun Park

Harvard University

Designed, fabricated, tested, and implemented nano- and micro-scale devices for biological applications. Utilized these tools to study antiviral sensing in dendritic cells, variability in the response of a primary human leukemia to perturbations, and signaling in networks of neurons.

**Teaching Fellow 2005-2007**

Cellular Basis of Neuronal Function (MCB 115 – Fall 2007): Professor Venkatesh Murthy, Harvard

Advanced Physical Chemistry (Chem 91r – Spring 2006): Professor Eric Heller, Harvard

Physical Chemistry (Chem 160 – Fall 2005): Professor Eric Heller, Harvard

Statistical Thermodynamics (Chem 161 – Spring 2005): Professor Eugene Shakhnovich, Harvard

**Undergraduate Research Associate 2003-2004**

Prof. Louis Brus

Columbia University

Optical and electrical properties of thin-film organic FETs and carbon nanotubes

**Undergraduate Research Associate 2002**

Prof. Richard Bersohn

Columbia University

Gas-phase chemical reaction dynamics and kinetics modeling

**Awards and Honors**

2023-Present J. W. Kieckhefer Professorship, MIT

2021 NIDA Avant Garde Pioneer (DP1) Award

2020 2019-2020 Harold E. Edgerton Faculty Achievement Award, MIT

2020 Young Mentor Award, Harvard Medical School

2019 Selected as a “voice” who will guide the next 15 years of methods development, *Nature Methods*, 2019

2019 Selected as 1 of the 25 “voices” who will guide the next 25 years of Immunology, *Immunity*, Cell Press, 2019

2018-2022 Pew-Stewart Scholar

2018-2020 Alfred P. Sloan Research Fellow in Chemistry

2017-Present Associate Editor, *Science Advances*

2017-2020 Pfizer-Laubach Career Development Professorship, MIT

2016 Associate Scientific Advisor, *Science Translational Medicine*

2015-2020 NIH Director’s New Innovator Award

2015-2019 Beckman Young Investigator

2015-2018 Searle Scholar

2015 NIH “Follow That Cell” Competition, First Place (team member)

2014-2017 Hermann L.F. Von Helmholtz Career Development Professor, MIT

2013 Excellence Award, Broad Institute

2012 Rowland Junior Fellowship, Harvard University (Declined)

2006 Dudley R. Herschbach Teaching Award, Harvard University

2005-2008 National Science Foundation Graduate Research Fellowship

2005 Certificate of Distinction in Teaching, Harvard University

2004 Phi Beta Kappa, Columbia University

2000-2004 John Jay Scholar, Columbia University

2000-2004 Dean’s List, Columbia University

**Peer Reviewed Publications**

\* or # Denotes equal authorship

135. Bhagchandani, S., Vohidov, F., Milling, L., Tong, E.Y., Brown, C., Liu, B., Fessenden, T., Nguyen, H.V.-T., Kiel, G., Won, L., Langer, R., Spranger, S., Shalek, A.K., Irvine, D.#, and Johnson, J.#, “Synthetic TLR7/8 agonist bottlebrush prodrugs enable tumor-selective immune stimulation following systemic administration,” *Science Advances*, **9** eadg2239 (2023).

134. Genshaft, A.S#, Subudhi, S. #, Keo, A. #, Sanchez Vasquez, J.D. #, Conceição-Neto, N. #, Mahamed, D., Boeijen, L.L., Alatrakchi, N., Oetheimer, C., Vilme, M., Drake, R.S., Fleming, I., Tran, N., Tzouanas, C., Joseph-Chazan, J., Villanueva, M.A., van de Werken, H.J.G., van Oord, G.W., Groothhuismink, Z.M.A., Beudeker, B.J., Osmani, Z., Nkongolo, S., Mehrotra, A., Feld, J., Chung, R.T., de Knegt, R.J., Janssen, H.L.A., Aerssen, J., Bollekens, J., Hacohen, N., Lauer, G.M.#, Boonstra, A. #, Shalek, A.K. #, and Gehring, A. #, “Clinical implementation of single-cell RNA sequencing using liver fine needle aspirate tissue sampling and centralized processing captures compartment specific immuno-diversity,” *Hepatology*, **AOP** (2023).

133. Wilk, A.J., Shalek, A.K., Holmes, S.\*, and Blish, C.A.\*, “Comparative analysis of cell-cell communication at single-cell resolution,” *Nature Biotechnology*, **AOP** (2023).

132. Bergholz, J.S.#, Wang, Q.#, Ramseier, M., Prakadan, S., Wang, W., Fang, R., Kabraji, S., Zhou, Q., Gray, G.K., Abell-Hart, K., Xie, S., Guo, X., Gu, H., Von, T., Jiang, T., Tang, S., Freeman, G., Kim, H.-J., Shalek, A.K., Roberts, T.M., and Zhao, J.J., “PI3Kβ mediates immune escape in PTEN-deficient triple-negative breast cancer,” *Nature*, **617** 139(2023).

131. Zhang, J.#, Goods, B.A.#, Pattarawat, P., Wang, Y., Haining, T., Zhang, Q., Shalek, A.K., Duncan, F.E.\*, Woodruff, T.K.\*, and Xiao, S.\*, “An ex vivo ovulation system enables the discovery of novel ovulatory pathways and non-hormonal contraceptive candidates,” *Biology of Reproduction*, **108** 629(2023).

130. Williams, H., Zhang, J., Raghavan, S., Winter, P., Kapner, K., Väyrynen, S., Costa, A.D., Väyrynen, J., Yuan, C., Navia, A., Wang, J., Yang, A., Bosse, T., Kalekar, R., Lowder, K., Lau, M.C., Elganainy, D., Morales-Oyarvide, V., Rubinson, D., Singh, H., Perez, K., Cleary, J., Clancy, T., Wang, J., Mancias, J., Brais, L., Hill, E., Kozak, M., Linehan, D., Dunne, R., Chang, D., Koong, A., Hezel, A., Hahn, W., Shalek, A.K., Aguirre, A., Nowak, J., and Wolpin, B., “Spatially-resolved single-cell assessment of pancreatic cancer expression subtypes reveals co-expressor phenotypes and profound intra-tumoral heterogeneity,” *Cancer Research*, **83** 441(2023).

129. Gondré-Lewis, T.A.\*, Jiang, C.\*, Ford, M., Koelle, D.M., Sette, A., Shalek, A.K., and Thomas, P., “NIAID Workshop on T Cell Technologies,” *Nature Immunology*, **Accepted** (2022).

128. Jaiswal, S., Boyce, S., Nyquist, S.K., Fortune, S.M., Flynn, J.L., Shalek, A.K., and Behar, S.M., “Identification and characterization of the T cell receptor (TCR) repertoire of the Cynomolgus macaque (*Macaca Fascicularis*),” *BMC Genomics*, **23** 647(2022).

127. Fardoos, R., Nyquist, S.K., Asowata, O.E., Kazer, S.W., Singh, A., Ngoepe, T.A., Giandhari, J., Mthabela, N., Ramjit, D., Singh, S., Karim, F., Buus, S., Anderson, F., Porterfield, J.Z., Sibiya, A.L., Bipath, R., Moodley, K., Kuhn, W.P., Berger, B.E., Nguyen, S., De Oliveira, T., Ndung'u, T., Goulder, P., Shalek, A.K., Leslie, A., and Kløverpris, H.N., “HIV-specific CD8+ TRM-like cells in tonsils express exhaustive signatures in the absence of natural HIV control,” *Frontiers in Immunology*, **13** 912038(2022).

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125. Kummerlowe, C., Wallach, T., Mwakamui, S., Hughes, T.K.,   Mulugeta, N.,  Mudenda, V.,  Besa, E., Zyambo, K.,  Fleming, I., Vukovic, M., Doran, B.A, Bramante, J.T.,  Uchida, A.M.,  Garber, J.J., Ordovas-Montanes, J., Gartner, Z., Shalek, A.K.\*,  and Kelly, P\*, “Single-cell profiling of environmental enteropathy reveals signatures of epithelial remodeling and immune activation in severe disease,” *Science Translation Medicine,* **14** eabi8633 (2022).

124. Chen, Y.-Y., Russo, D.D., Drake, R., Duncan, F., Shalek, A.K., Good, B.A.\*, and Woodruff, T.K.\*, “Single-cell transcriptomics of staged oocytes and somatic cells reveal novel regulators of follicle activation,” *Reproduction*, **164** 55 (2022).

123. Nyquist, S.K., Gao, P., Haining, T.K.J., Retchin, M.R., Maor, Y.G., Drake, R.S., Kolb, K., Mead, B.E., Ahituv, N., Martinez, M.E., Berger, B.E. \*, Shalek, A.K.\*, and Goods, B.E.\*, “Cellular and transcriptional diversity over the course of human lactation,” *PNAS,* **119***,* e2121720119 (2022).

122. Morris, V., Wang, D., Li, Z., Marion, W., Hughes, T.K., Sousa, P., Harada, T., Sui, S.H., Naumenko, S., Kalfon, J., Sensharma, P., Falchetti, M., da Silva, R.V., Candelli, T., Schneider, P., Margaritis, T., Holstege, F.C.P., Pikman, Y., Harris, M., Stam, R.W., Orkin, R.H., Kohler, A.N., Shalek, A.K., North, T.E., Pimkin, M., Daley, G.Q., da Rocha, E.L.\*, and Rowe, R.G.\*, “Hypoxic, glycolytic metabolism is a vulnerability of B-acute lymphoblastic leukemia-initiating cells,” *Cell Reports*, **39** 110752(2022).

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120. Gideon, H#, Hughes, T.K.#, Wadsworth, M.H., Tu, A.A., Gierahn, T.M., Hopkins, F.F., Wei, J.-R., Kummerlowe, C., Grant, N.L., Nargan, K., Phuah, J., Borish, H.J., Maiello, P., White, A.G., Ganchua, S.K.C., Myers, A., Ameel, C.L., Cochran, C.T., Nyquist, S.K., Peters, J.M., Tomko, J.A., Frye, L.J., Rosenberg, J.M., Shih, A., Chao, M., Scanga, C.A., Ordovas-Montanes, J., Berger, B., Mattila, J.T., Madansein, R., Love, J.C., Bryson, B., Lin, P.L., Leslie, A., Behar, S.M., Flynn, J.L\*, Fortune, S.M.\*, and Shalek, A.K.\*, “Single-cell profiling of tuberculosis lung granulomas reveals functional lymphocyte signatures of bacterial control,” *Immunity,* **55,** 827(2022).

119. DePasquale, E.A.K., Ssozi, D., Ainciburu, M., Good, J., Noel, J. , Villanueva, M., Couturier, C.P., Shalek, A.K., Mallidi, H.R., Bueno, R., Griffin, G.K., Lane, A.A., and van Galen, P., “Single-cell Multiomics Analysis Reveals Clonal T-cell Expansions and Exhaustion in Plasmacytoid Dendritic Cell Neoplasms,” *Frontiers in Immunology,* **13**, 809414(2022).

118. Mancio-Silva, L.#, Gural, N.#, Wadsworth II, M.H., Butty, V.L., Hughes, T.K., Nerurkar, N., Fleming, H.E., March, S., Levine, S.S., Sattabongkot, J., Shalek, A.K.\*, and Bhatia, S.N.\*, “Gene signatures and host-parasite interactions revealed by dual single-cell profiling of Plasmodium vivax liver infection,” *Cell Host & Microbe,* **30**, 1(2022).

117. Gerdemann, U.#, Fleming, R.#, Kaminsk, J.#, McGuckin, C., Rui, X., Lane, J., Keskula, P., Cagnin, L., Shalek, A.K.\*, Tkachev, V.\*, and Kean, L.S.\*, “Identification and tracking of alloreactive T cell clones in Rhesus Macaques through the RM-scTCR-Seq platform,” *Frontiers in Immunology*, **12** 804932 (2022).

116. Collins, N.B., Abosy, R.A., Miller, B.C., Bi, K., Zhao, Q., Quigley, M., Ishizuka, J.J., Yates, K.B., Pope, H.W., Manguso, R.T., Shrestha, Y., Wadsworth II, M.H., Hughes, T.K., Shalek, A.K., Boehm, J.S., Hahn, W.C., Doench, J.G., and Haining, W.N., “PI3K-activation allows immune evasion by promoting an inhibitory myeloid tumor microenvironment,” *Journal for ImmunoTherapy of Cancer,* ***10,*** *e003402**(2022*).

115. Song, H., Weinstein, H.N.W., Allegakoen, P., Wadsworth II, M.H., Xie, J., Yang, H., Lu, K.L., Stohr, B.A., Feng, F.Y., Carroll, P.R., Wang, B., Copperberg, M.R., Shalek, A.K., and Huang, F.W., “Single-cell analysis of human primary prostate cancer reveals the heterogeneity of tumor-associated epithelial cell states,” *Nature Communications*, **13** 14 (2022)**.**

114. Rosenberg, J.M., Hughes, T.K., Peters, J.M., Lareau, C., Ludwig, L., Massoth, L., Austin-Tse, C., Rehm, H., Regev, A., Shalek, A.K., Chen, Y-B., Fortune, S.F., and Sykes, D., “Itacitinib for a patient with aplastic anemia and a gain-of-function mutation in STAT1,” *Med,* ***3****, 42**(2021*).

113. Francis, J.M., Leistritz-Edwards, E., Dunn, A., Tarr, C., Lehman, J., Dempsey, C., Hamel, A., Rayon, V., Liu, G., Wang, Y., Wille, M., Durkin, M., Hadley, K., Sheena, A., Roscoe, B., Ng, M., Rockwell, G., Manto, M., Gienger, E., Nickerson, J., MGH COVID-19 Collection and Processing Team, Moarefi, A., Noble, M., Malia, T., Bardwell, P.D., Gordon, W., Swain, J., Skoberne, M., Sauer, K., Harris, T., Goldrath, A.W., Shalek, A.K., Coyle, A.J., Benoist, C., and Pregibon, D.C., “Allelic variation in class I HLA determines CD8+ T cell repertoire shape and cross-reactive memory responses to SARS-CoV-2,” *Science Immunology*, eabk3070(2021).

112. Prakadan, S.M.#, Alvarez-Breckenridge, C.#, Markson, S.C.#, Klein, R.H., Nayyar, N., Navia, A.W., Kuter, B.M., Kolb, K.E., Bihun, I., Moara, J.L., Bertalan, M.S., Shaw, B., White, M., Kaplan, A., Stocking, J.H., Wadsworth II, M.H., Subramanian, M., Cahill, D.P., Miller, J.W., Sullivan, R.J., Carter, S.L.\*, Brastianos, P.K.\*, Shalek, A.K.\*, “Multicellular responses to PD-1 blockade within the tumor microenvironment of leptomeningeal metastases,” Nature Communications, 12 5955 (2021).

111. Rodel, H.E., Ferreira, I.M., Ziegler, C.G.K., Ganga, Y., Berstein, M., Hwa, S.-H., Nargan, K., Lustig, G., Kaplan, G., Noursadeghi, M., Shalek, A.K., Steyn, A., and Sigal, A., “Aggregated Mycobacterium tuberculosis enhances the inflammatory response,” *Frontiers in Microbiology*, **12** 757134(2021).

110. Raghavan, S.**#**, Winter,, P.S.#, Navia, A.W.**#**, Williams, H.L., DenAdel, A., Kalekar, R.L., Galvez-Reyes, J., Lowder, K.E., Mulugeta, N., Raghavan, M.S., Borah, A.A., Väyrynen, S.A., Costa, A.D., Ng, R.W.S., Wang, J., Reilly, E., Ragon, D., Brais, L.K., Jaeger, A.M., Spurr, L.F., Li, Y.Y., Cherniak, A.D., Wakrio, I., Rotem, A., Johnson, B.E., McFarland, J.M., Sicinska, E., Jacks, T., Clancy, T.E., Perez, K., Rubinson, D.A., Ng, K., Cleary, J.M., Crawford, L., Manalis, S.R., Nowak, J.A., Wolpin, B.M.\*, Hahn, W.C.\*, Aguirre, A.J.\*, and Shalek, A.K.\*, “Transcriptional subtype-specific microenvironmental crosstalk and tumor cell plasticity in metastatic pancreatic cancer,” *Cell*, **184** 6119(2021)*.*

109. Bein, A.\*, Kim, S.\*, Goyal, G.\*, Cao, W.\*, Fadel, C., Naziripour, A., Sharma, S., Swenor, B., LoGrande, N., Nurani, A., Maio, V.M., Navia, A.W., Ziegler, C.G.K., Ordovas-Montañes, J., Prabhala, P., Kim, M.S., Prantil-Baun, R., Rodas, M., Jiang, A., Tillya, G., Shalek, A.K., and Ingber, D.E., “Enteric coronavirus infection and treatment modeled with an immunocompetent human intestine-on-a-chip,” *Frontiers in Pharmacology*, **12** 718484 (2021).

108. Wang, Y., Goods, B.A., Russo, D.A., Pattarawat, P., Zhang, Q., Zelinski, M.B., Shalek, A.K., and Xiao, S., “Vitrification preserves murine follicular cell transcriptome in a 3D encapsulated in vitro follicle growth system,” *Biology of Reproduction*, **105** 1378 (2021).

107. Hamza, B.#, Miller, A.B.#, Meier, L., King, E., Stockslager, M., Ng, S.R., DeGouveia, K., Mesfin, N., Calistri, N., Strouf, H., Lin, L., Chin, C.R., Shalek, A.K., Jacks, T., and Manalis, S.R., “Measuring Kinetics and Metastatic Propensity of CTCs by Blood Exchange between Mice,” *Nature Communications*, **12** 5680**.**

106. Fardoos, R., Asowata, O.E., Herbert, N., Nyquist, S.K., Zungu, Y., Singh, A., Ngoepe, A., Mbano, I.M., Mthabela, N., Ramjit, D., Karim, F., Kuhn, W., Madela, F., Manzini, V.T., Anderson, F., Berger, B., Pers, T.H., Shalek, A.K., Leslie, A., and Kløverpris, H.N., “HIV infection drives interferon signaling within intestinal SARS-CoV-2 target cells,” *JCI Insight*, **6** e148920 (2021).

105. Youngs, J.#, Provine, N.M.#, Lim, N.#, Sharpe, H.†, Amini, A.†, Chen, Y.-L.†, Edmans, M., Zacharapoulou, P., Luo, J., Chen, W., Sampson, O., Paton, R., Duncan, D.A., McNaughton, A., Miao, V.N., Leaver, S., Wyncoll, D., Oxford Immunology Network COVID-19 (OPTIC) Clinical team, Skelly, D.T., Barnes, E., Dunachie, S., Ogg, G., Lambe, T., Pavord, I., Shalek, A.K., Thompson, C., Xue, L., Macallan, D., Goulder, P.#, Klenerman, P. #, and, Bicanic, T. #, “Identification of immune correlates of fatal outcomes in critically ill COVID-19 patients,” *PLOS Pathogens*, **17** e1009804 (2021)**.**

104. Crouchet, E., Bandiera, S., Fujiwara, N., Li, S., El Saghire, H., Sun, X., Hirschfield, H., Roehlen, N., Juehling, F., Saviano, A., Motos, V.G., Venkatesh, A., Ponsolles, C., Verrier, E.R., Van Renne, N., Lupberger, J., Thumann, C., Duong, F.H.T., Zhu, S., Sojoodi, M., Masia, R., Wei, L., Oudot, M.A., Durand, S.C., Nakagawa, S., Ono, A., Song, W., Higashi, T., Sanchez, R., Kim, R.S., Bian, C.B., Kiani, K., Croonenborghs, T., Subramanian, A., Chung, R.T., Heide, D., Hetzer, J., Staub, B.K., Schuppan, D., Ankavay, M., Cocquerel, L., Schaeffer, E., Goossen, N., Koh, A.P., Mahajan, M., Nair, V.D., Gunasekaran, G., Schwartz, M.E., Bardeesy, N., Shalek, A.K., Rozenblatt-Rosen, O., Regev, A. Heikenwalder, M., Felli, E., Pessauz, P., Tanabe, K.K., Schuster, C., Pochet, N., Zeisel, M.B., Fuchs, B.C., Hoshida, Y., and Baumert, T.F., “Fast-track liver disease chemoprevention discovery using a clinical gene signature-inducible human cell culture model,” *Nature Communications*, **12** 5525 (2021)**.**

103. Mead, B.E.\*, Hattori, K.\*, Levy, L., Vukovic, M., Sze, D., Matute, J.D., Duan, J., Langer, R., Blumberg, R.S., Ordovas-Montanes, J., Karp, J.M.#, and Shalek, A.K.#, “High-throughput organoid screening enables engineering of intestinal epithelial composition,” *Nature Biomedical Engineering*, **6**, 476 (2022).

102. Ziegler, C.G.K.\*, Miao, V.N.\*, Owings, A.H.\*, Navia, A.W.\*, Tang, Y.\*, Bromley, J.D.\*, Lofty, P., Sloan, M., Laird, H., Williams, H.B., George, M., Drake, R.S., Christian, T., Parker, A., Sindel, C.B., Burger, M.W., Pride, Y., Hasan, M., Abraham, G.E., Senitko, M., Robinson, T.O., Shalek, A.K.#, Glover, S.C.#, Horwitz, B.H.#, and Ordovas-Montanes, J.#, “Impaired local intrinsic immunity to SARS-CoV-2 infection in severe COVID-19,” *Cell*, **184** 4713 (2021)**.**

101. Buchheit, K.M., Lewis, E., Gakpo, D., Hacker, J., Sohail, A., Taliaferro, F., Giron, E.B., Asare, C., Vukovic, M., Bensko, J.C., Dwyer, D., Shalek, A.K., Ordovas-Montanes, J., and Laidlaw, T.M., “Mepolizumab targets multiple immune cells in aspirin-exacerbated respiratory disease”, *JACI*, **148** 574 (2021).

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98. Ma, F., Hughes, T.K., Teles, R.M.B., Andrade, P.R., de Andrade Silva, B.J., Plazyo, O., Tsoi, L.C., Do, T, Wadsworth II, M.H., Oulee, A., Ochoa, M.T., Sarno, E.N., Iruela-Arispe, M.L., Bryson, B., Shalek, A.K., Bloom, B.R., Gudjonsson, J.E., Pellegrini, M., and Modlin, R.L., “Single Cell and Spatial Transcriptomics Defines the Cellular Architecture of the Antimicrobial Response Network in Human Leprosy Granulomas”. *Nature Immunology*, **22** 839(2021).

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17. Garraway, L., Izar, B., Prakadan, S., Regev, A., Rotem, A., Rozenblatt-Rosen, O., Shalek, A.K., Tirosh, I., and Wadsworth II, M., “Dissociation of Human Tumor to Single Cell Suspension Followed by Biological Analysis,” US2017/016,146 (2017).

16. Shalek, A.K., Love, J.C., Wadsworth II, M.W., Hughes, T.K., and Geirahn, T., “Semi-Permeable Arrays for Analyzing Biological Systems and Methods of Using Same,” US US2017/013,791 (2017).

15. Shalek, A.K., Yosef, N., Yu, X. G.Martin-Gayo, E., Cole, M., Kolb, K.E., and Ouyang, Z., “Methods for identifying and modulating immune phenotypes,” US2017/018,963 (2017).

14. Shalek, A.K., Van Humbeck, J.V., Genshaft, A.S., and Ziegler, C.G.K., “Methods for Identifying and Modulating Co-Occurant Cellular Phenotypes,” US2017/023,054 (2017).

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12. Garraway, L., Izar, B., Regev, A., Rozenblatt-Rosen, O, Shalek, A.K., Tirosh, I., Prakadan, S., and Wadsworth II, M.W., “Melanoma gene expression, composition of matter and methods of use thereof,” US2016/040,015 (2016).

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8. Regev, A., Park, H., Shalek, A.K., and Satija, R., “Dendritic Cell Gene Expression, Compositions of Matters and Methods of Use Thereof,” US2014/030,429 (2014).

7. Regev, A., Kuchroo, V., Park, H., Yosef, N., Shalek, A.K., Gaublomme, J.T., Joller, N.C., and Wu, C. “Therapeutic targets and gene signatures for Th17 T cells,” US2014/560,328 (2014).

6. Park, H., Shalek, A.K, Ding, R., and Park, J., “Multiwell Plates Comprising Nanowires,” US2013/032,512 (2013).

5. Park, H., Shalek, A.K, and, Jorgolli, M., “Fabrication of Nanowire Arrays,” US2013/032,486 (2013).

4. Park, H., Shalek, A.K., Gaublomme, J.T., “Use of Nanowires for Delivering Biological Effectors into Immune Cells,” US2013/032,457 (2013).

3. Park, H., Robinson, J.T., Sutton, A., Jorgolli, M., and Shalek, A.K., “Molecular Delivery with Nanowires,” US2013/876,066 (2013).

2. Park, H., Robinson, J.T., Sutton, A., Jorgolli, M., and Shalek, A.K., “Nanowires for Electrophysiological Applications,” US2013/876,054 (2013).

1. Park, H., Yang, E., Shalek, A.K., Lee, L., Robinson, J.T., Sutton, A., Yoon, M., and Jorgolli, M., “Molecular Delivery with Nanowires,” US2013/264,587 (2013).

**Invited Talks**

236. Military HIV Research Program (MHRP) Winter 2023 Seminar Series, Walter Reed Army Institute of Research, Silver Spring, MD, 2023

235. John Volankis Immunology Lecture, University of Alabama, Birmingham, AL, 2023

234. Novel Computational Tools to Probe Cancer at the Single Cell Level Session, AACR Annual Meeting, Orlando, Fl, 2023

233. MIT ILP Health Science Technology Conference, MIT, Cambridge, MA, 2023.

232. Center for Advanced Molecular and Immunological Therapies (CAMI), University of Arizona Health Sciences, Phoenix, AZ, 2023.

231. 9th Annual Genomic Approaches Toward Precision Cancer Medicine Symposium, DFCI, Boston, MA, 2023.

230. Centre for Infectious Medicine, MedH, Karolinska Institute, Stockholm, Sweden, 2023.

229. Basic and Translational Sciences Seminar Series, Oregon Health & Science University, Portland, Oregon, 2023.

228. Drug Discovery News Webinar, 2023.

227. Department of Immunology, UW, Seattle, WA, 2023.

226. Moderna, Cambridge, MA, 2023.

225. 14th African Society of Human Genetics (AfSHG) meeting & 2nd international congress of the Society of Genomics and Human Genetics (SM2GH), Rabat, Morocco, 2022.

224. Broad Discovery Series, Broad Institute, Cambridge, MA, 2022.

223. 2nd HCA Virtual Training, Accra, Ghana, 2022.

222. HIV Reservoirs Consortium Meeting, Gates Foundation, Seattle, WA, 2022.

221. Annual CAVD Meeting, Gates Foundation, Seattle, WA, 2022.

220. Keynote, The First International Conference on Single-Cell Sequencing and Spatial Omics (TICSSO-1), Guangzhou, China, 2022.

219. 53rd APA Annual Scientific Meeting, American Pancreatic Association, Orlando, FL, 2022.

218. Keynote, HCA Asia 2022, Bangkok, Thailand, 2022.

217. Grand Challenges Annual Meeting, Brussels, Belgium, 2022.

216. 8th Macau Symposium on Biomedical Sciences (8th MSBS), University of Macau, Macau, China, 2022.

215. 8th Annual CTVD Meeting, Gates Foundation, Seattle, WA, 2022.

214. 8th International Conference on Stem Cell Engineering 2022: Engineering multicellular systems for modeling physiology and disease, Boston MA, 2022

213. Department of Microbiology, Immunology, and Tropical Medicine (MITM), George Washington University, Washington, DC, 2022.

212. 2022 AACR Special Conference on Pancreatic Cancer, Boston, MA, 2022.

211. Keynote, Gastroenterology Society of Australia Research Workshop, Melbourne, Australia, 2022.

210. Keynote, Symposium on Systems Medicine in Chronic Inflammatory Disorders, Kiel Germany, 2022.

209. AAI Advanced Course in Immunology, Boston, MA, 2022.

208. 20th International Congress on Mucosal Immunology, Seattle, WA, 2022.

207. 20th International Congress on Mucosal Immunology Educational Session, Seattle, WA, 2022.

206. Intramural Research Program (IRP) of the National Institute of Arthritis, Musculoskeletal and Skin Diseases (NIAMS) of the National Institutes of Health (NIH), Bethesda, MD, 2022

205. T Cell Technologies: Assays, Innovations, Challenges, and Opportunities, NIAID, NIH, Bethesda, MD, 2022.

204. Yonsei Team Science Award Symposium, Yonsei University College of Medicine, Seoul, Korea, 2022

203. GIISER Monthly Meeting, Gates Foundation, Seattle, Washington, 2022.

202. Vaccine Research Center (VRC) Seminar Series, NIH, Bethesda, MD, 2022.

201. 19th H3Africa Consortium Meeting, Cape Town, South Africa, 2022.

200. Probing Human Disease Using Singe-Cell Technologies, Fusion Conference, Cancun, Mexico, 2022.

199. Department of Physiology and Biophysics and the Institute for Computational Biomedicine (ICB), Weill Cornell Medicine (WCM), New York, NY, 2022.

198. National Institute of Immunology, New Delhi, India, 2022.

197. National Institute of Biomedical Genomics, Bangalore, India, 2022.

196. Annual Society of Human Genetics, Virtual, 2021.

195. The 16th Research Symposium on Human Natural Defense System, Yonsei University College of Medicine, Seoul, Korea, 2021.

194. Department of Bioengineering, Rice University, Houston, TX, 2021.

193. H3ABioNet Seminar, Cape Town, South Africa, 2021.

192. 18th H3Africa Consortium Meeting, Cape Town, South Africa, 2021.

191. 11th Federation of African Immunological Society (FAIS) meeting, Lilongwe, Malawi, 2021.

190. AAI Advanced Course in Immunology, Boston, MA, 2021.

189. COVID19 seminar series, Howard Hughes Medical Institute, Janelia Research Campus, Ashburn, VA, 2021.

188. University of São Paulo Medical School, São Paulo, Brazil, 2021.

187. Bonn Lecture Series on Systems Immunology, University of Bonn, 2021.

186. Rose Winer Levin Lecture, Dana Farber Cancer Institute (DFCI), Boston, MA, 2021.

185. 4th Annual UCI Skin Symposium, UCI, Irvine, CA, 2021.

184. UCSF ImmunoX Program, UCSF, San Francisco, CA, 2021.

183. 2021 Keystone Symposia on Single Cell Biology, Banff, AB, Canada, 2021

182. Association of Biomolecular Resource Facilities (ABRF) 2021 Virtual Annual Meeting, 2021

181. Immunology Seminar Series, Stanford University, Palo Alto, CA, 2021

180. 3rd Arab Association of Genetic Research (AAGR) Conference, KAUST, Thuwal, Saudi Arabia, 2020.

179. BD Biosciences, San Jose, CA, 2020.

178. Chemistry Department Seminar, MIT, Cambridge, MA, 2020.

177. Microbial Pathogenesis Seminar, Yale Medical School, New Haven, CT, 2020.

176. HCA Asia 2020, Beijing, China, 2020.

175. Broad Institute Virtual Media Boot Camp: The Science Of SARS-CoV-2, Broad Institute, Cambridge, MA, 2020

174. Cancer Biology Program Graduate School Keynote, MD Anderson Cancer Center, Galveston, TX, 2020.

173. Department of Hematology/Oncology, Boston Children’s Hospital & the Dana Farber Cancer Institute (DFCI), Boston, MA, 2020.

172. Human Cell Atlas Latin America Workshop, São Paulo, Brazil, 2020.

171. American Association for Cancer Research (AACR) Special Conference on Cellular Heterogeneity and Single-Cell Sequencing, AACR, 2020

170. Biochemistry, UCSF, San Francisco, CA, 2020.

169. Next generation of Assays, Tools, Technologies to Evaluate Immune Responses to Vaccines for Infectious Diseases, NIAID, NIH, Rockville, MD, 2020.

168. Indian Academy of Sciences Frontiers of Science Symposium of the Human Cell Atlas, Bangalore, India, 2020.

167. 2020 AAI Advanced Course in Immunology, Boston, MA, 2020.

166. Microfluidics Consortium Open Day, Boston, MA, 2020.

165. AACR Virtual Annual Meeting, Boston, MA, 2020.

164. Pathogenesis TechTalk, MassCPR, Boston, MA, 2020.

163. MIT Math & CSAIL Bioinformatics Seminar series, MIT, Cambridge, MA, 2020.

162. Human Cell Atlas and the National Institutes of Health Joint Meeting, NIH (virtual), Bethesda, MD, 2020

161. 2019-2020 NIH Systems Biology seminar series, NIH, Bethesda, MD, 2020.

160. Oxford University Clinical Research Unit, Ho Chi Minh City, Vietnam, 2020.

159. Seminars in Oncology Lecture Series, Dana-Farber Cancer Institute and the Dana-Farber/Harvard Cancer Center, Boston, MA, 2020.

158. Ragon-NEIDL Symposium, Ragon Institute, Cambridge, MA, 2020.

157. SLAS 2020, San Diego, CA, 2020.

156. UW/Fred Hutch Center for AIDS Research (CFAR) seminar series, UW & Fred Hutch, Seattle, WA, 2020

155. 8th Annual Meeting of the Japanese Society for Immunology (JSI), Hamamatsu, Shizuoka, Japan, 2019

154. Kyoto University, Kyoto, Japan, 2019.

153. 2019 Gates Grand Challenges, Addis Ababa, Ethiopia, 2019.

152. Department of Microbiology and Immunology, University of Maryland School of Medicine, Baltimore, MD, 2019.

151. Single Cell Omics Beijing 2019 Symposium, Beijing, China, 2019.

150. Single-Cell Genomics 2019, Stockholm, Sweden, 2019.

149. Biomedicum Helsinki Seminar Series, Helsinki, Finland, 2019.

148. 2019 CSBC Annual Investigators Meeting, Irvine, CA, 2019.

147. University of São Paulo, São Paulo, Brazil, 2019.

146. Center for Cancer Systems Biology (CCSB) Seminar Series, Stanford, Palo Alto, CA, 2019.

145. 2019 Oxford Single Cell Symposium, Oxford, UK, 2019.

144. Nature NYU conference: Next-Generation Genomics, New York, NY, 2019.

143. Vaginal Microbiome Research Consortium, Bill & Melinda Gates Foundation, Seattle, WA, 2019.

142. National Institute of Health and Bill & Melina Gates Foundation Joint Workshop “Finding and Characterizing HIV Reservoirs”, NIH, Bethesa, MD, 2019.

141. Seventh Annual Broad-ISF Symposium, Jerusalem, Israel, 2019.

140. Merck, Boston, MA, 2019.

139. Agilent, Santa Clara, CA, 2019

138. IMMUNOLOGY2019, San Diego, CA, 2019.

137. Meakins-Christie Seminar Series, McGill University, Montreal, Canada, 2019.

136. Canadian Institute for Advanced Research (CIFAR) Molecular Architecture of Life Program Meeting, Orford, Quebec, 2019.

135. National Institute of Allergy and Infectious Diseases (NIAID)/Division of AIDS (DAIDS) Friday seminar series, NIH, Bathesda, MD, 2019.

134. MGH BioMEMS Resource Center (BMRC) at the Center for Engineering in Medicine, Boston, MA, 2019.

133. Department of Genetics, UCLA, Los Angeles, CA, 2091.

132. MassBiologics seminar series, University of Massachusetts Medical School, Boston, MA, 2019.

131. Abbvie, Cambridge, MA, 2019.

130. Whitehead Institute, MIT, Cambridge, MA, 2019.

129. Department of Immunology, University of Pittsburgh School of Medicine, Pittsburgh, PA, 2019.

128. National Academy of Sciences' Standing Committee on Emerging Science for Environmental Health Decisions, National Academy of Sciences, Washington, D.C., 2019.

127. Roche Webinar, GenomeWeb, Boston, MA, 2019.

126. MIT/Koch Institute Immune Engineering symposium, MIT, Cambridge, MA, 2019.

125. Single Cell Biology, Keystone Symposia on Molecular and Cellular Biology, Breckenridge, Colorado, 2019.

124. Computational Cancer Seminar Series, Institute for Computational Medicine at NYU Langone Health, New York, MA, 2018.

123. MIT AI in Life Sciences and Healthcare Conference, Cambridge, MA, 2018.

122. EMBL-EBI Industry RNA-seq workshop, Cambridge, MA, 2018.

121. New England Immunology Conference, Marine Biological Lab, Woods Hole, MA, 2018.

120. Blaffer Lecture, MD Anderson Cancer Center, Houston, Texas, 2018.

119. Cell Signaling Technology, Danvers, MA, 2018.

118. Salk Institute, La Jolla, CA, 2018.

117. NIBIB-NIAID Roundtable on Bioengineering-based HIV Vaccine Development, NIH, Bethesda, MD, 2018.

116. Illumina Single-Cell Meeting, Boston, MA, 2018.

115. Tools of Human Investigation Lecture Series, MGH, Boston, MA, 2018

114. GC Advanced Course: Single Cell Technologies and Analysis, Wellcome Genome Campus, Hinxton, Cambridge, UK, 2018

113. Conference Microfluidics 2018: New technologies and applications in biology, biochemistry and single-cell analysis, Heidelberg, Germany, 2018.

112. Case-Western University, Cleveland, OH, 2018.

111. Merck Research Labs, Boston, MA, 2018.

110. Immunobiology, University of California – San Diego, 2018.

109. Broad Global Health symposium, Cambridge, MA, 2018.

108. Mount Sinai Immunotherapy Institute, Mt. Sinai School of Medicine, 2018.

107. Sentinels Meeting, Bill and Melinda Gates Foundation, Seattle, WA, 2018.

106. American Association for Cancer Research Annual Meeting, Chicago, Illinois, 2018.

105. MGH, Boston, MA, 2018.

104. ITI Human Immune Monitoring Technology and Bioinformatics Conference, Stanford, CA, 2018.

103. Cancer Research Institute’s Cancer Immunotherapy Consortium, New York, NY, 2018.

102. Regulation and Dysregulation of Innate Immunity in Disease, Keystone Symposia on Molecular and Cellular Biology, Vancouver, British Columbia, Canada, 2018.

101. 12th Annual CAVD Meeting, Gates Foundation, Seattle, WA, 2017

100. Boston University Genome Science Institute, 2017.

99. Jounce Therapeutics, Cambridge, MA, 2017.

98. NCI Physical Sciences-Oncology Network (PS-ON) Annual Investigators’ Meeting, NCI, Boston, MA, 2017.

97. Cellular and Molecular Biology Program at the University of Michigan in Ann Arbor, MI 2017.

96. 24th International Symposium on Hepatitis C Virus and Related Viruses, Cape Cod, MA, 2017.

95. Fifth Basel Immunology Focus Symposium, Switzerland, 2017.

94. Illumina, 2017.

93. 5th Annual Workshop on Micro- and Nanotechnologies in Medicine, Brigham and Women’s Hospital, 2017.

92. Big Data in the Life Sciences Symposium (IBS), Dartmouth, 2017.

91. Evergrande Center, Harvard Medical School, 2017.

90. Single-Cell Cancer Biology Special Symposium, Yale School of Medicine, 2017.

89. 9th Annual Progress in Winning the War on Cancer Symposium, American Cancer Society, Boston, MA, 2017.

88. Dana Farber Cancer Institute, 2017.

87. Human Cell Atlas Technology Meeting, Stanford, 2017

86. Human Cell Atlas Technology Meeting, Stanford, 2017

85. Fred Hutchinson Cancer Research Center, 2017

84. Caltech, 2017.

83. Harvard Medical School Department of Immunology, Harvard Medical School, 2017

82. AASLD Basic Science Symposium on Liver Immunology, 2016.

81. Gates Foundation Grand Challenges Meeting, 2016.

80. Next Generation Sequencing & Single Cell USA, 2016.

79. International Vascular Biology Meeting, 2016.

78. Illumina Single-Cell Genomics Experts Panel, 2016.

77. Aeras Functional Assay Workshop, NIH, 2016.

76. Merck Research Labs Boston, 2016.

75. Thermo Fisher Scientific, 2016.

74. 4th Workshop on Micro- and Nanotechnologies in Medicine, BWH, 2016.

73. Oxford Genomics Centre, 2016.

72. Front Line Genomics Festival of Genomics, 2016.

71. U. Mass Medical School, 2016.

70. AstraZeneca, 2016.

69. Emory, 2016.

68. RNA-Seq Summit, 2016.

67. Genentech, 2016.

66. Merck Research Labs Palo Alto, 2016.

65. Boston University, 2016.

64. Chugai, 2016.

63. Takada, 2016.

62. ICHG 2016, 2016

61. Novartis, 2016.

60.R&D Conference, MEDLAB Asia Pacific, 2016.

59. University of Pennsylvania, 2016.

58. Genzyme, 2015.

57. Tumor Immunity, Boston, 2015.

56. 25th Annual CSIBD Workshop, Massachusetts General Hospital, 2015.

55. EMBL-EBI Industry Program, 2015.

54. Next Generation Sequencing & Single cell USA, Boston, 2015.

53. 4th International Conference on Immunotherapy in Pediatric Oncology, 2015.

52. Massachusetts General Hospital, Immunology Seminar Series, 2015.

51. Beth Israel Deaconess Medical Center, Center for Virology and Vaccine Research, 2015.

50. European Association of Cancer Researchers, Cambridge, UK, 2015.

49. CAPRISA, 2015.

48. NIGMS/MIT Biotechnology Training Program Retreat, 2015.

47. Translational Research Institute, 2015.

46. Institute for Molecular Bioscience, University of Queensland, 2015.

45. Walter & Eliza Hall Institute, 2015.

44. Monash University, 2015.

43. Malaghan Institute & the Victoria University School of Biological Sciences, 2015.

42. Maurice Wilkins Centre, University of Auckland, 2015.

41. Harvard Medical School, Department of Immunology, 2015.

40. MGH BioMEMS Resource Center Seminar Series, 2015.

39. Centers for Excellence in Genomic Science Meeting, Broad Institute, 2014.

38. Oxford Genomics Centre Forum, Oxford University, 2014

37. HIV Prevention Workshop, Cape Town, 2014.

36. K-RITH, 2014.

35. Chemical Biology Institute, Yale, 2014.

34. Department of Biomedical Engineering, UT Austin, 2014.

33. Department of Pharmaceutical Chemistry, UCSF, 2014.

32. ChEM-H, Stanford, 2014.

31. Lewis Sigler Institute, Princeton, 2014.

30. Institute for Medical Engineering & Science, MIT, 2014.

29. Department of Chemistry, MIT, 2014.

28. Department of Molecular Biology, Massachusetts General Hospital, 2014.

27. Department of Cell Biology, Harvard Medical School, 2014.

26. Department of Stem Cell and Regenerative Biology, Harvard University, 2014.

25. Department of Chemistry and Chemical Biology, Cornell, 2014.

24. Department of Applied Physics, Cornell University, 2014.

23. Department of Chemical Engineering, Columbia University, 2014.

22. Division of Infectious Diseases, Boston Children’s Hospital, 2014.

21. Department of Bioengineering, Caltech, 2014.

20. Department of Cancer Immunology & AIDS, Dana Farber Cancer Institute, 2014.

19. Broad Institute Tenth Annual Scientific Retreat, 2014.

18. Genomics Platform Speaker Series, Broad Institute, 2014.

17. Disruptive Innovations in Neuroscience, MIT, 2014.

16. Bonn Lecture Series on Systems Biology, Bonn, 2014.

15. Oxford Single Cell Sequencing Workshop, Oxford University, 2014.

14. Single Cell Genomics, Weizmann Institute of Science, 2013.

13. Hebrew University of Jerusalem, 2013.

12. Fluidigm Single Cell Symposium: The Paradigm of the Single Cell, 2013.

11. GenoFest, University of Minnesota, 2013.

10. Medical and Population Genomics Meeting, Broad Institute, 2013.

9. SciLifeLab, Uppsala University, 2013.

8. Cancer Program Meeting, Broad Institute, 2013

7. 53rd New England Complex Fluids Workshop, 2012.

6. Broad Institute Eighth Annual Scientific Retreat, 2012.

5. Single-Cell Genomics Initiative Launch, Broad Institute, 2012.

4. Centers for Excellence in Genomic Science Meeting, University of North Carolina, 2012.

3. Broad Institute Seventh Annual Scientific Retreat, 2011.

2. New England RNA Data Club, 2010.

1. CCB Student/Post-doc Seminar Series, 2010.

**Select Service**

2023 Novel Computational Tools to Probe Cancer at the Single Cell Level Session, Chair, AACR Annual Meeting, Orlando, Fl

2023 Panelist, Challenges to statistical approaches for fairness in genomics online workshop, Data Science for Health Equity, University College London, London, England

2022- Member, Wellcome Trust Inclusive Research Design and Practice Expert Advisory Group (EAG)

2022 Co-lead, Data Harmonization & Integration Working Group, HIV Reservoirs Consortium, Gates Foundation, Seattle, Washington, 2022.

2022 Session Co-Chair, T Cell Technologies: Assays, Innovations, Challenges, and Opportunities, NIAID, NIH, Bethesda, MD, 2022.

2022 Ad hoc reviewer, NSF

2021 Ad hoc reviewer, NIAMS Accelerating Medicines Partnership Autoimmune and Immune-Mediated Diseases: Technology and Analytic Cores (TACs) and Research Management Unit (RMU), NIH

2021 Ad Hoc Member, SeroNet Collaborative Set-Aside Funds External Reviewer, NIH

2021 Ad Hoc Member, NCI Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21) and Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33), NCI, 2021

2021 Ad Hoc Member, NIAMS Skin Biology and Diseases Resource-based Center (P30) Grant Review Panel, NIH

2021 Ad Hoc Member, amfAR Target Grants RFP Review Panel, amfAR

2021 Organizing Committee, 8th International Conference on Stem Cell Engineering 2021: Engineering multicellular systems for modeling physiology and disease

2020 Ad Hoc Reviewer, Allen Distinguished Investigator RFP in immunometabolism research, Paul G. Allen Frontiers Group

2020-2024 American Association of Immunologists (AAI) Intersect Fellowship Review Committee; Chair in 2021

2020- Steering Committee, Massachusetts Consortium on Pathogen Readiness (MassCPR)

2020 Co-organizer, American Association for Cancer Research (AACR) Special Conference on Cellular Heterogeneity and Single-Cell Sequencing

2020 DoD Peer Reviewed Medical Research Program on the Coronavirus Disease - Surveillance, Triage and Modeling - 2 (COVID-STM-2) panel

2020 Session Chair, SLAS 2020

2019 Ad Hoc Member, Wallenberg Academy Fellows Review Committee, The Royal Swedish Academy of Sciences

2018- Guest Editor, *PNAS*

2018 Committee Member, European Research Council Starting Grant Panel LS3 “Cellular and Developmental Biology”

2018 Ad Hoc Member, NHGRI Novel Genomic Technology Review Panel, NIH

2018, 2022 Ad Hoc Member, NIDDK High-Resolution Exploration of the Human Islet Tissue Environment [HIRN Human Pancreas Analysis Consortium (HPAC)] Review Panel, NIH

2018 Ad Hoc, Member, NIAMS Skin Biology and Diseases Resource-based Center (P30) Grant Review Panel, NIH

2017- Guest Editor, *eLife*

2017- Associate Editor, *Science Advances*

2017 Discussion Moderator, Common Coordinate Framework Meeting, NIH

2017 Associate Scientific Advisor, *Science Translational Medicine*

2016- Coleader of the Human Equity Working Group, Human Cell Atlas Project

1. Mail Reviewer, NIAMS Centers of Research Translation (P50) Grant Review Panel, NIH

2015 Ad Hoc Member, NIAMS Skin Biology and Diseases Resources-based Centers (P30) Grant Review Panel, NIH

2015 Discussion Moderator, Single Cell Analysis Program, NIH

2014 Ad Hoc Member, Special Emphasis Panel AMP UH2 Grant Review Panel, NIH, 2014

2014- Judge, Siemens Math, Science, and Technology Competition

2011- Reviewer for *PNAS, JACS, Langmuir, Nano Letters, Nature & Nature Subjournals, Science & Science Subjournals, Cell & Cell Press Subjournals, Trends in Immunology, PLOS ONE, NARS*, Genome Biology, *Nucleic Acids Research, eLife*

**Memberships**

2022- American Society for Biochemistry and Molecular Biology (ASBMB)

2022- American Association for the Advancement of Science (AAAS)

2019- American Association of Immunologists (AAI)

2017- Bill and Melinda Gates Foundation Collaboration for AIDS Vaccine Discovery (CTVD)

2016- Bill and Melinda Gates Foundation Collaboration for TB Vaccine Discovery (CTVD)

2016- American Association for Cancer Research

2015- European Association for Cancer Research

2013- American Chemical Society

2008-2012 Society for Neuroscience

**External Positions**

2023 Consultant, FL86/Flagship Ventures

2022-2023 Scientific Advisory Board, Santa Ana Bio

2022- Scientific Advisory Board, intrECate Biotherapeutics, Inc

2022- Consultant, Senda Biosciencs, Inc

2021-2022 Consultant, Empress Therapeutics, Inc

2021-2022 Consultant, FL82/Flagship Ventures

2021- Scientific Advisory Board, Relation Therapeutics Limited

2021-2022 Consultant, Third Rock Ventures

2020- Scientific Advisory Board, Ochre Bio

2018-2020 Consultant, Cell Signaling Technology

2018-2022 Repertoire Immune Medicines/ Cogen Therapeutics, Inc.

2018- Scientific Advisory Board/Founder, Honeycomb Biosciences

2017- Scientific Advisory Board, Dahlia Biosciences

2017- Consultant, Cellarity/VL49/Flagship Ventures

2017- Associate Editor, Science Advances

2016 Associate Scientific Advisor, Science Translational Medicine

**References**

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Institute Professor of Chemistry, Chemical Engineering, Physics, and Biological Engineering

Core faculty member and former Founding Director, Institute for Medical Engineering & Science, MIT

Founding Steering Committee Member, Ragon Institute of MGB, MIT, & Harvard

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