Stanford

Sean Bendall

Associate Professor of Pathology

Bio

ACADEMIC APPOINTMENTS

- Associate Professor, Pathology
- Member, Bio-X
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- co-Director, Stanford Immunology Research and Training Program, (2024- present)

HONORS AND AWARDS

- NIH Director's New Innovator Award, National Institutes of Health (2016)
- NIH Pathway to Independence Award, NIH / NIGMS (2013)
- Dale F. Frey Breakthrough Scientist, Damon Runyon Cancer Research Foundation (2012)
- ISAC President's Award of Excellence, International Society for Advancement of Cytometry (2012)
- Fellowship, Canadian Institute of Health Research (CIHR) (2009)
- Fellowship, Damon Runyon Cancer Research Foundation (2009)

PROFESSIONAL EDUCATION

- Postdoc, Stanford University , Single Cell Proteomics of the Human Hematopoietic System (2013)
- PhD, University of Western Ontario , Proteomic Analysis of Human Embryonic Stem Cell Culture (2008)
- BSc, University of Victoria (2002)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our goal is to understand the mechanisms regulating the development of human systems (both embryonic and adult). In particular, we are interested in clarifying the roles of both protein coding genes as well as pathobiology (disease state or pathogen) known to be uniquely human – therefore, not analogously studied in model organisms. Drawing on both pluripotent stem cell biology, hematopoiesis, and immunology, combined with novel high-content single-cell analysis (CyTOF – Mass Cytometry) and imagining (MIBI-Multiplexed Ion Beam Imaging) we are creating templates of ‘normal’ human cellular behavior. Using these we can decipher the roles of protein regulators on cellular specification as well as the influence of human-specific pathobiology on system remodeling at the single cell level. This work will enable a better understanding of how disease corrupts this process. Ultimately,

our objective will be to use such approaches to not only reveal how novel regulators function in the context of complex cellular systems, but also enable the mechanistic characterization of human pathobiology in primary human tissues. In doing so we will understand how changes in related physiological or pathological systems can be more readily recognized and controlled.

In addition to the lab's work on human hematopoiesis and pluripotent stem cell specification we are seeking collaborative partnerships surrounding problems in human immunology as well as in regenerative medicine, including efforts to exploit next generation single-cell analysis and new computational methods to create systems level models of these processes so that they may be better understood and directed.

Teaching

COURSES

2025-26

- Advanced Immunology I: IMMUNOL 201 (Win)

2024-25

- Advanced Immunology I: IMMUNOL 201 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Potchara Boonrat, Jeanna Enriquez, Anthony François, Jodie Lunger, Tara Murty, David Seong

Postdoctoral Faculty Sponsor

James Dressman, Davide Franchina, Rory Hills, Avery Lam, Hadeesha Piyadasa

Doctoral Dissertation Advisor (AC)

Jumana Afaghani, Jessica Diarra, Rachel Ee, Humza Khan

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)

Publications

PUBLICATIONS

- **A deep single cell mass cytometry approach to capture canonical and noncanonical cell cycle states.** *Nature communications*
  Amouzgar, M., Favaro, P., Ho, D., Bruce, T., Bendall, S. C.
  2025; 16 (1): 8821

- **Spatial map of microglial diversity beyond proteopathy** *NATURE IMMUNOLOGY*
  Cannon, B. J., Bendall, S. C.
  2025: 1231-1232

- **Spatial proteomics of Alzheimer's disease-specific human microglial states.** *Nature immunology*
  Mrdjen, D., Cannon, B. J., Amouzgar, M., Kim, Y., Liu, C., Vijayaragavan, K., Camacho, C., Spence, A., McCaffrey, E. F., Bharadwaj, A., Tebaykin, D., Bukhari, S., Bosse, et al
  2025

- **Quantification of intrinsic regulatory factors refines human hematopoietic progenitor definitions and reveals early erythroid lineage priming.** *Cell reports*
  Favaro, P., Glass, D. R., Borges, L., Baskar, R., Lam, A., Reynolds, W., Ho, D., Bruce, T., Tebaykin, D., Koehnke, T., Scanlon, V. M., Shestopalov, I., Bendall, et al
  2025; 44 (7): 115913

- **Multi-omic landscape of human gliomas from diagnosis to treatment and recurrence.** *bioRxiv : the preprint server for biology*

Piyadasa, H., Oberlton, B., Ribi, M., Ranek, J. S., Averbukh, I., Leow, K., Amouzgar, M., Liu, C. C., Greenwald, N. F., McCaffrey, E. F., Kumar, R., Ferrian, S., Tsai, et al
2025

- **Terminal deoxynucleotidyl transferase and CD84 identify human multi-potent lymphoid progenitors.** *Nature communications*
  Kim, Y., Calderon, A. A., Favaro, P., Glass, D. R., Tsai, A. G., Ho, D., Borges, L., Greenleaf, W. J., Bendall, S. C.
  2024; 15 (1): 5910

- **Gestationally dependent immune organization at the maternal-fetal interface.** *Cell reports*
  Moore, A. R., Vivanco Gonzalez, N., Plummer, K. A., Mitchel, O. R., Kaur, H., Rivera, M., Collica, B., Goldston, M., Filiz, F., Angelo, M., Palmer, T. D., Bendall, S. C.
  2022; 41 (7): 111651

- **Integrating transcription-factor abundance with chromatin accessibility in human erythroid lineage commitment.** *Cell reports methods*
  Baskar, R., Chen, A. F., Favaro, P., Reynolds, W., Mueller, F., Borges, L., Jiang, S., Park, H. S., Kool, E. T., Greenleaf, W. J., Bendall, S. C.
  2022; 2 (3)

- **An Integrated Multi-omic Single-Cell Atlas of Human B Cell Identity.** *Immunity*
  Glass, D. R., Tsai, A. G., Oliveria, J. P., Hartmann, F. J., Kimmey, S. C., Calderon, A. A., Borges, L. n., Glass, M. C., Wagar, L. E., Davis, M. M., Bendall, S. C.
  2020; 53 (1): 217–32.e5

- **Multiplexed single-cell morphometry for hematopathology diagnostics.** *Nature medicine*
  Tsai, A. G., Glass, D. R., Juntilla, M. n., Hartmann, F. J., Oak, J. S., Fernandez-Pol, S. n., Ohgami, R. S., Bendall, S. C.
  2020; 26 (3): 408–17

- **Single-cell metabolic profiling of human cytotoxic T cells.** *Nature biotechnology*
  Hartmann, F. J., Mrdjen, D. n., McCaffrey, E. n., Glass, D. R., Greenwald, N. F., Bharadwaj, A. n., Khair, Z. n., Verberk, S. G., Baranski, A. n., Baskar, R. n., Graf, W. n., Van Valen, D. n., Van den Bossche, et al
  2020

- **MIBI-TOF: A multiplexed imaging platform relates cellular phenotypes and tissue structure.** *Science advances*
  Keren, L., Bosse, M., Thompson, S., Risom, T., Vijayaragavan, K., McCaffrey, E., Marquez, D., Angoshtari, R., Greenwald, N. F., Fienberg, H., Wang, J., Kambham, N., Kirkwood, et al
  2019; 5 (10): eaax5851

- **Comprehensive Immune Monitoring of Clinical Trials to Advance Human Immunotherapy.** *Cell reports*
  Hartmann, F. J., Babdor, J., Gherardini, P. F., Amir, E. D., Jones, K., Sahaf, B., Marquez, D. M., Krutzik, P., O'Donnell, E., Sigal, N., Maecker, H. T., Meyer, E., Spitzer, et al
  2019; 28 (3): 819

- **Parallel analysis of tri-molecular biosynthesis with cell identity and function in single cells** *NATURE COMMUNICATIONS*
  Kimmey, S. C., Borges, L., Baskar, R., Bendall, S. C.
  2019; 10

- **Proliferation tracing with single-cell mass cytometry optimizes generation of stem cell memory-like T cells** *NATURE BIOTECHNOLOGY*
  Good, Z., Borges, L., Gonzalez, N., Sahaf, B., Samusik, N., Tibshirani, R., Nolan, G. P., Bendall, S. C.
  2019; 37 (3): 259-+

- **A Structured Tumor-Immune Microenvironment in Triple Negative Breast Cancer Revealed by Multiplexed Ion Beam Imaging** *CELL*
  Keren, L., Bosse, M., Marquez, D., Angoshtari, R., Jain, S., Varma, S., Yang, S., Kurian, A., Van Valen, D., West, R., Bendall, S. C., Angelo, M.
  2018; 174 (6): 1373-+

- **Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse.** *Nature medicine*
  Good, Z., Sarno, J., Jager, A., Samusik, N., Aghaeepour, N., Simonds, E. F., White, L., Lacayo, N. J., Fantl, W. J., Fazio, G., Gaipa, G., Biondi, A., Tibshirani, et al
  2018; 24 (4): 474–83

- **Data-Driven Phenotypic Dissection of AML Reveals Progenitor-like Cells that Correlate with Prognosis** *CELL*

Levine, J. H., Simonds, E. F., Bendall, S. C., Davis, K. L., Amir, E. D., Tadmor, M. D., Litvin, O., Fienberg, H. G., Jager, A., Zunder, E. R., Finck, R., Gedman, A. L., Radtke, et al
2015; 162 (1): 184-197

- **Single-Cell Trajectory Detection Uncovers Progression and Regulatory Coordination in Human B Cell Development** *CELL*
  Bendall, S. C., Davis, K. L., Amir, E. D., Tadmor, M. D., Simonds, E. F., Chen, T. J., Shenfeld, D. K., Nolan, G. P., Pe'er, D.
  2014; 157 (3): 714-725

- **Multiplexed ion beam imaging of human breast tumors.** *Nature medicine*
  Angelo, M., Bendall, S. C., Finck, R., Hale, M. B., Hitzman, C., Borowsky, A. D., Levenson, R. M., Lowe, J. B., Liu, S. D., Zhao, S., Natkunam, Y., Nolan, G. P.
  2014; 20 (4): 436-442

- **Single-Cell Mass Cytometry of Differential Immune and Drug Responses Across a Human Hematopoietic Continuum** *SCIENCE*
  Bendall, S. C., Simonds, E. F., Qiu, P., Amir, E. D., Krutzik, P. O., Finck, R., Bruggner, R. V., Melamed, R., Trejo, A., Ornatsky, O. I., Balderas, R. S., Plevritis, S. K., Sachs, et al
  2011; 332 (6030): 687-696

- **Automated classification of cellular expression in multiplexed imaging data with Nimbus.** *Nature methods*
  Rumberger, J. L., Greenwald, N. F., Ranek, J. S., Boonrat, P., Walker, C., Franzen, J., Varra, S. R., Kong, A., Sowers, C., Liu, C. C., Averbukh, I., Piyadasa, H., Vanguri, et al
  2025

- **Spatial Profiling of Colorectal Cancer Extracellular Milieu Reveals Novel Axes of Immunosuppression and Inflammation**
  Baskar, R., Lakshmanan, V., Lee, A., Wong, W., Bagaoisan, D., Peng, Y., Bosse, M., Filiz, F., Fullaway, C., Bendall, S., Tan, I., Prabhakar, S.
  AMER ASSOC CANCER RESEARCH.2025: P38

- **CellFuse Enables Multi-modal Integration of Single-cell and Spatial Proteomics data.** *bioRxiv : the preprint server for biology*
  Koladiya, A., Good, Z., Varra, S. R., Bendall, S. C., Davis, K. L.
  2025

- **A deep single cell mass cytometry approach to capture canonical and noncanonical cell cycle states.** *bioRxiv : the preprint server for biology*
  Amouzgar, M., Favaro, P., Ho, D., Bruce, T., Bendall, S. C.
  2025

- **IKAROS levels are associated with antigen escape in CD19- and CD22-targeted therapies for B-cell malignancies.** *Nature communications*
  Domizi, P., Sarno, J., Jager, A., Merchant, M., Pacheco, K. Z., Yamada-Hunter, S. A., Rotiroti, M. C., Liu, Y., Baskar, R., Reynolds, W. D., Sworder, B. J., Sahaf, B., Bendall, et al
  2025; 16 (1): 3800

- **New Atomic Mass Tags for Enhanced Multiplexing Capability of Multiplexed Ion Beam Imaging Time-of-Flight (MIBI-TOF) Analysis.** *Analytical chemistry*
  Kumar, R., Hartmann, F. J., Favaro, P., Ho, D., Bruce, T., Goldston, M., Spence, A., McCaffrey, E. F., Bendall, S. C., Angelo, M.
  2025

- **A multi-institutional phase 1 clinical trial exploring upfront multimodal standard of care and combined immunotherapies for newly diagnosed glioblastoma.** *Neuro-oncology*
  Wen, P. Y., Manzanera, A., Duault, C., Gonzalez-Kozlova, E., Lopez, L., Grossman, S. A., Ye, X., Fisher, J., Lee, I., Walbert, T., Snyder, J., Brem, S., Desai, et al
  2025

- **Uridine Metabolism as a Targetable Metabolic Achilles' Heel for chemo-resistant B-ALL.** *bioRxiv : the preprint server for biology*
  Liu, Y., Jiang, H., Liu, J., Stuani, L., Merchant, M., Jager, A., Koladiya, A., Chang, T. C., Domizi, P., Sarno, J., Keyes, T., Jedoui, D., Wang, et al
  2025

- **Autophagy counters inflammation-driven glycolytic impairment in aging hematopoietic stem cells.** *Cell stem cell*
  Dellorusso, P. V., Proven, M. A., Calero-Nieto, F. J., Wang, X., Mitchell, C. A., Hartmann, F., Amouzgar, M., Favaro, P., DeVilbiss, A., Swann, J. W., Ho, T. T., Zhao, Z., Bendall, et al
  2024

- **Immunophenotypic profiling reveals novel T cell subset associated with "tolerance" in pediatric transplant recipients**

Zhang, W., Rao, M., Amouzgar, M., Reitsma, A., Pena, J., Nova, P., Shah, A., Bendall, S., Esquivel, C., Martinez, O., Krams, S.
AMER ASSOC IMMUNOLOGISTS.2024

- **Author Correction: Advances and prospects for the Human BioMolecular Atlas Program (HuBMAP).** *Nature cell biology*
  Jain, S., Pei, L., Spraggins, J. M., Angelo, M., Carson, J. P., Gehlenborg, N., Ginty, F., Goncalves, J. P., Hagood, J. S., Hickey, J. W., Kelleher, N. L., Laurent, L. C., Lin, et al
  2024

- **Human cerebrospinal fluid single exosomes in Parkinson's and Alzheimer's diseases.** *bioRxiv : the preprint server for biology*
  Yakabi, K., Berson, E., Montine, K. S., Bendall, S. C., MacCoss, M. J., Poston, K. L., Montine, T. J.
  2023

- **Immune determinants of CAR-T cell expansion in solid tumor patients receiving GD2 CAR-T cell therapy.** *Cancer cell*
  Kaczanowska, S., Murty, T., Alimadadi, A., Contreras, C. F., Duault, C., Subrahmanyam, P. B., Reynolds, W., Gutierrez, N. A., Baskar, R., Wu, C. J., Michor, F., Altreuter, J., Liu, et al
  2023

- **Phenotyping EMT and MET cellular states in lung cancer patient liquid biopsies at a personalized level using mass cytometry.** *Scientific reports*
  Karacosta, L. G., Pancirer, D., Preiss, J. S., Benson, J. A., Trope, W., Shrager, J. B., Sung, A. W., Neal, J. W., Bendall, S. C., Wakelee, H., Plevritis, S. K.
  2023; 13 (1): 21781

- **Immuno-metabolic dendritic cell vaccine signatures associate with overall survival in vaccinated melanoma patients.** *Nature communications*
  Adamik, J., Munson, P. V., Maurer, D. M., Hartmann, F. J., Bendall, S. C., Argüello, R. J., Butterfield, L. H.
  2023; 14 (1): 7211

- **Prior Knowledge Integration Improves Relapse Prediction and Identifies Relapse Associated Mechanisms in Childhood B Cell Acute Lymphoblastic Leukemia**
  Koladiya, A., Jager, A., Culos, A., Merchant, M., Liu, Y., Stuani, L., Sarno, J., Domizi, P., Mullighan, C. G., Aghaeepour, N., Bendall, S., Davis, K. L.
  AMER SOC HEMATOLOGY.2023

- **Loss-of-function mutations in Dnmt3a and Tet2 lead to accelerated atherosclerosis and concordant macrophage phenotypes** *NATURE CARDIOVASCULAR RESEARCH*
  Rauch, P. J., Gopakumar, J., Silver, A. J., Nachun, D., Ahmad, H., Mcconkey, M., Nakao, T., Bosse, M., Rentz, T., Gonzalez, N., Greenwald, N. F., Mccaffrey, E. F., Khair, et al
  2023; 2 (9): 805-+

- **Loss-of-function mutations in Dnmt3a and Tet2 lead to accelerated atherosclerosis and concordant macrophage phenotypes.** *Nature cardiovascular research*
  Rauch, P. J., Gopakumar, J., Silver, A. J., Nachun, D., Ahmad, H., McConkey, M., Nakao, T., Bosse, M., Rentz, T., Vivanco Gonzalez, N., Greenwald, N. F., McCaffrey, E. F., Khair, et al
  2023; 2 (9): 805-818

- **Unravelling human hematopoietic progenitor cell diversity through association with intrinsic regulatory factors.** *bioRxiv : the preprint server for biology*
  Favaro, P., Glass, D. R., Borges, L., Baskar, R., Reynolds, W., Ho, D., Bruce, T., Tebaykin, D., Scanlon, V. M., Shestopalov, I., Bendall, S. C.
  2023

- **Cross-species comparative analysis of single presynapses.** *Scientific reports*
  Berson, E., Gajera, C. R., Phongpreecha, T., Perna, A., Bukhari, S. A., Becker, M., Chang, A. L., De Francesco, D., Espinosa, C., Ravindra, N. G., Postupna, N., Latimer, C. S., Shively, et al
  2023; 13 (1): 13849

- **High-dimensional profiling of pediatric immune responses to solid organ transplantation.** *Cell reports. Medicine*
  Rao, M., Amouzgar, M., Harden, J. T., Lapasaran, M. G., Trickey, A., Armstrong, B., Odim, J., Debnam, T., Esquivel, C. O., Bendall, S. C., Martinez, O. M., Krams, S. M.
  2023: 101147

- **Expanded vacuum-stable gels for multiplexed high-resolution spatial histopathology.** *Nature communications*

Bai, Y., Zhu, B., Oliveria, J., Cannon, B. J., Feyaerts, D., Bosse, M., Vijayaragavan, K., Greenwald, N. F., Phillips, D., Schurch, C. M., Naik, S. M., Ganio, E. A., Gaudilliere, et al

2023; 14 (1): 4013

- **Synthesis, Characterization, and Applications of a Superior Dendrimer-Based Polymer for Multiplexed Ion Beam Imaging Time-of-Flight Analysis.** *Biomacromolecules*

  Kumar, R., Liu, C. C., Bendall, S. C., Angelo, M.

  2023

- **Spatial proteomics reveals human microglial states shaped by anatomy and neuropathology.** *Research square*

  Mrdjen, D., Amouzgar, M., Cannon, B., Liu, C., Spence, A., McCaffrey, E., Bharadwaj, A., Tebaykin, D., Bukhari, S., Hartmann, F. J., Kagel, A., Vijayaragavan, K., Oliveria, et al

  2023

- **Dasatinib overcomes glucocorticoid resistance in B-cell acute lymphoblastic leukemia.** *Nature communications*

  Sarno, J., Domizi, P., Liu, Y., Merchant, M., Pedersen, C. B., Jedoui, D., Jager, A., Nolan, G. P., Gaipa, G., Bendall, S. C., Bava, F., Davis, K. L.

  2023; 14 (1): 2935

- **Systems biology approaches to unravel lymphocyte subsets and function.** *Current opinion in immunology*

  Kim, Y., Greenleaf, W. J., Bendall, S. C.

  2023; 82: 102323

- **NK-like CD8+ γδ T cells are expanded in persistent Mycobacterium tuberculosis infection.** *Science immunology*

  Roy Chowdhury, R., Valainis, J. R., Dubey, M., von Boehmer, L., Sola, E., Wilhelmy, J., Guo, J., Kask, O., Ohanyan, M., Sun, M., Huang, H., Huang, X., Nguyen, et al

  2023; 8 (81): eade3525

- **Magnitude and kinetics of the human immune cell response associated with severe dengue progression by single-cell proteomics.** *Science advances*

  Robinson, M. L., Glass, D. R., Duran, V., Agudelo Rojas, O. L., Sanz, A. M., Consuegra, M., Sahoo, M. K., Hartmann, F. J., Bosse, M., Gelvez, R. M., Bueno, N., Pinsky, B. A., Montoya, et al

  2023; 9 (12): eade7702

- **Spatial proteomics of tumor microenvironments reveal why location matters.** *Nature immunology*

  Piyadasa, H., Angelo, M., Bendall, S. C.

  2023

- **High-dimensional profiling of pediatric immune responses to solid organ transplantation**

  Rao, M., Amouzgar, M., Harden, J. T., Lapasaran, M. G., Trickey, A., Armstrong, B., Odim, J., Debnam, T., Esquivel, C. O., Bendall, S. C., Martinez, O. M., Krams, S. M.

  WILEY.2023

- **Polyunsaturated fatty acid-bound alpha-fetoprotein promotes immune suppression by altering human dendritic cell metabolism.** *Cancer research*

  Munson, P. V., Adamik, J., Hartmann, F. J., Favaro, P. M., Ho, D., Bendall, S. C., Combes, A. J., Krummel, M. F., Zhang, K., Kelley, R. K., Butterfield, L. H.

  2023

- **CELL TYPE-SPECIFIC TRANSCRIPTOMIC TRAJECTORIES UNDERLYING DISEASE PROGRESSION IN INCLUSION BODY MYOSITIS**

  Wischnewski, S., Ikenaga, C., Kocharyan, A., Thaewel, T., Zulji, A., Rausch, H., Martin, C., Mrdjen, D., Brenner, D., Bunse, L., Tan, C., Thomas, L., Kutza, et al

  CLINICAL & EXPER RHEUMATOLOGY.2023: 506-507

- **UNRAVELLING HUMAN HEMATOPOIETIC PROGENITOR CELL DIVERSITY THROUGH ASSOCIATION WITH INTRINSIC REGULATORY FACTORS**

  Favaro, P., Glass, D., Borges, L., Baskar, R., Reynolds, W., Ho, D., Bruce, T., Tebaykin, D., Tsai, A., Shestopalov, I., Bendall, S.

  ELSEVIER SCIENCE INC.2023: S79

- **Single-cell spatial proteomic imaging for human neuropathology.** *Acta neuropathologica communications*

  Vijayaragavan, K., Cannon, B. J., Tebaykin, D., Bosse, M., Baranski, A., Oliveria, J. P., Bukhari, S. A., Mrdjen, D., Corces, M. R., McCaffrey, E. F., Greenwald, N. F., Sigal, Y., Marquez, et al

2022; 10 (1): 158

- **IKAROS MEDIATES ANTIGEN ESCAPE FOLLOWING CD19 CAR T CELL THERAPY IN R/R B-ALL**
  Domizi, P., Sarno, J., Jager, A., Rotiroti, M., Baskar, R., Reynolds, W., Sahaf, B., Bendall, S., Mullighan, C., Leahy, A., Myers, R., Grupp, S., Majzner, et al
  WILEY.2022

- **DEEP MYELOID CELL PROFILING PROVIDES NEW INSIGHTS INTO MODULATORS OF CAR T CELL EXPANSION IN PATIENTS WITH SOLID TUMOR MALIGNANCIES**
  Kaczanowska, S., Ramakrishna, S., Murty, T., Contreras, C., Alimadadi, A., Gutierrez, N., Jhaveri, A., Liu, Y., Altreuter, J., Michor, F., Duault, C., Balasubrahmanyam, P., Reynolds, et al
  BMJ PUBLISHING GROUP.2022: A418

- **DEFINING T CELL EXHAUSTION AND MEMORY CORRELATES OF GD2 CAR T CELL EXPANSION IN PEDIATRIC PATIENTS WITH SOLID TUMOR MALIGNANCIES**
  Murty, T., Ramakrishna, S., Kaczanowska, S., Contreras, C., Duault, C., Balasubrahmanyam, P., Reynolds, W., Baskar, R., Jhaveri, A., Liu, Y., Altreuter, J., Michor, F., Pichavant, et al
  BMJ PUBLISHING GROUP.2022: A381

- **Post-infusion CAR T-Reg cells identify patients resistant to CD19-CAR therapy** *NATURE MEDICINE*
  Good, Z., Spiegel, J. Y., Sahaf, B., Malipatlolla, M. B., Ehlinger, Z. J., Kurra, S., Desai, M. H., Reynolds, W. D., Lin, A., Vandris, P., Wu, F., Prabhu, S., Hamilton, et al
  2022

- **Distinct metabolic states guide maturation of inflammatory and tolerogenic dendritic cells.** *Nature communications*
  Adamik, J., Munson, P. V., Hartmann, F. J., Combes, A. J., Pierre, P., Krummel, M. F., Bendall, S. C., Arguello, R. J., Butterfield, L. H.
  2022; 13 (1): 5184

- **Supervised dimensionality reduction for exploration of single-cell data by HSS-LDA.** *Patterns (New York, N.Y.)*
  Amouzgar, M., Glass, D. R., Baskar, R., Averbukh, I., Kimmey, S. C., Tsai, A. G., Hartmann, F. J., Bendall, S. C.
  2022; 3 (8): 100536

- **The interaction of SWI/SNF with the ribosome regulates translation and confers sensitivity to translation pathway inhibitors in cancers with complex perturbations.** *Cancer research*
  Ulicna, L., Kimmey, S. C., Weber, C. M., Allard, G. M., Wang, A., Bui, N. Q., Bendall, S. C., Crabtree, G. R., Bean, G. R., Van Rechem, C.
  2022

- **An optimized protocol for phenotyping human granulocytes by mass cytometry.** *STAR protocols*
  Vivanco Gonzalez, N., Oliveria, J., Tebaykin, D., Ivison, G. T., Mukai, K., Tsai, M. M., Borges, L., Nadeau, K. C., Galli, S. J., Tsai, A. G., Bendall, S. C.
  2022; 3 (2): 101280

- **Human IL-10-producing B cells have diverse states that are induced from multiple B cell subsets.** *Cell reports*
  Glass, M. C., Glass, D. R., Oliveria, J. P., Mbiribindi, B., Esquivel, C. O., Krams, S. M., Bendall, S. C., Martinez, O. M.
  2022; 39 (3): 110728

- **Reproducible, high-dimensional imaging in archival human tissue by multiplexed ion beam imaging by time-of-flight (MIBI-TOF).** *Laboratory investigation; a journal of technical methods and pathology*
  Liu, C. C., Bosse, M., Kong, A., Kagel, A., Kinders, R., Hewitt, S. M., Varma, S., van de Rijn, M., Nowak, S. H., Bendall, S. C., Angelo, M.
  2022

- **Author Correction: The immunoregulatory landscape of human tuberculosis granulomas.** *Nature immunology*
  McCaffrey, E. F., Donato, M., Keren, L., Chen, Z., Delmastro, A., Fitzpatrick, M. B., Gupta, S., Greenwald, N. F., Baranski, A., Graf, W., Kumar, R., Bosse, M., Fullaway, et al
  2022

- **CytofIn enables integrated analysis of public mass cytometry datasets using generalized anchors.** *Nature communications*
  Lo, Y., Keyes, T. J., Jager, A., Sarno, J., Domizi, P., Majeti, R., Sakamoto, K. M., Lacayo, N., Mullighan, C. G., Waters, J., Sahaf, B., Bendall, S. C., Davis, et al
  2022; 13 (1): 934

- **Revealing new biology from multiplexed, metal-isotope-tagged, single-cell readouts.** *Trends in cell biology*
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