

Stanford



Holden Maecker

Professor (Research) of Microbiology and Immunology
Microbiology & Immunology

Bio

BIO

Dr. Maecker received a BS in Microbiology from Purdue University and a PhD in Cancer Biology from Stanford University. He did postdoctoral work with Ronald and Shoshana Levy at Stanford, and was an Assistant Professor of Biology at Loyola University Chicago, as well as a Senior Scientist at BD Biosciences, San Jose, CA. He is currently a Professor of Microbiology and Immunology, and Director of the Human Immune Monitoring Center, at Stanford University.

ACADEMIC APPOINTMENTS

- Professor (Research), Microbiology & Immunology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Human Immune Monitoring Center, (2009- present)
- Member, Institute for Immunity, Transplantation, and Infection, (2009- present)
- Member, Immunology Interdisciplinary Degree Program, (2012- present)
- Director, Service Centers and Enabling Technologies, Stanford University School of Medicine, (2014- present)
- Member, Stanford Diabetes Research Center, (2017- present)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Scientific Advisory Board, Cytex (2017 - present)
- Member, SITC Biomarker Task Force (2014 - present)
- Member, Stanford Cancer Institute Scientific Review Committee (2011 - present)
- Co-chair, FOCIS Human Immunophenotyping Consortium (HIPC) (2009 - present)

PROFESSIONAL EDUCATION

- PhD, Stanford University , Cancer Biology (1988)
- BS, Purdue University , Microbiology (1984)

COMMUNITY AND INTERNATIONAL WORK

- Human Immunophenotyping Consortium

PATENTS

- Vernon Maino, Holden Maecker, Douglas Petry. "United States Patent 2007/109161 Detection of HIV-infected cell subsets", Becton, Dickinson, and Company, Jan 1, 2007
- Shoshana Levy, Rosemarie Dekruyff, Dale Umetsu, Holden Maecker. "United States Patent 2001/0044418 Treatment of allergies", Stanford University, Jan 1, 2001

LINKS

- HIMC website: <http://himc.stanford.edu>
- Maeckerlab weblog: <http://maeckerlab.typepad.com>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

A major theme in our group is to define metrics of immune competence in various settings, including cancer immunotherapy, organ transplantation, allergy, and chronic viral infection. We use CyTOF mass cytometry, often in combination with other technologies, to broadly survey immune features at the cellular level, then examine links between features or groups of features and clinical outcome. A long-term goal is to create an assay of global immune competence that could predict risk for various immune-related outcomes in both healthy individuals and in disease.

Teaching

COURSES

2022-23

- Introduction to Applied Computational Tools in Immunology: IMMUNOL 206 (Win)
- MTRAM A: Translational Research Methods and Technologies: Cell Based Methods: MED 212A (Aut)

2021-22

- Introduction to Applied Computational Tools in Immunology: IMMUNOL 206 (Win)

2020-21

- Introduction to Applied Computational Tools in Immunology: IMMUNOL 206 (Win)

2019-20

- Introduction to Applied Computational Tools in Immunology: IMMUNOL 206 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

David Seong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)
- Microbiology and Immunology (Phd Program)

Publications

PUBLICATIONS

- **CD8+ T cell differentiation status correlates with the feasibility of sustained unresponsiveness following oral immunotherapy.** *Nature communications*
Kaushik, A., Dunham, D., Han, X., Do, E., Andorf, S., Gupta, S., Fernandes, A., Kost, L. E., Sindher, S. B., Yu, W., Tsai, M., Tibshirani, R., Boyd, et al
2022; 13 (1): 6646
- **Phenotypes of disease severity in a cohort of hospitalized COVID-19 patients: Results from the IMPACC study.** *EBioMedicine*
Ozonoff, A., Schaeffer, J., Jayavelu, N. D., Milliren, C. E., Calfee, C. S., Cairns, C. B., Kraft, M., Baden, L. R., Shaw, A. C., Krammer, F., van Bakel, H., Esserman, D. A., Liu, et al
2022; 83: 104208
- **Discrete Plasma Cytokine Profiles among Pregnant Women in Botswana by Chlamydia trachomatis infection, HIV status, and Gestational age.** *The Journal of infectious diseases*
Babalola, C. M., Siebert, J. C., Kallapur, S. G., Maecker, H. T., Rosenberg-Hasson, Y., Hansman, E., Wynn, A., Mussa, A., Ryan, R., Simon, S., Morroni, C., Klausner, J. D.
2022
- **Anti-nucleocapsid antibody levels and pulmonary comorbid conditions are linked to post-COVID-19 syndrome.** *JCI insight*
Jia, X., Cao, S., Lee, A. S., Manohar, M., Sindher, S. B., Ahuja, N., Artandi, M., Blish, C. A., Blomkalns, A. L., Chang, I., Collins, W. J., Desai, M., Din, et al
2022; 7 (13)
- **Identification of Pathogenic Immune Cell Subsets Associated With Checkpoint Inhibitor-Induced Myocarditis.** *Circulation*
Zhu, H., Galdos, F. X., Lee, D., Waliany, S., Vivian Huang, Y., Ryan, J., Dang, K., Neal, J. W., Wakelee, H. A., Reddy, S. A., Srinivas, S., Lin, L. L., Witteles, et al
2022: 101161CIRCULATIONAHA121056730
- **Full spectrum flow cytometry and mass cytometry: A 32-marker panel comparison.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
Jaimes, M. C., Leipold, M., Kraker, G., Amir, E., Maecker, H., Lannigan, J.
2022
- **Increases in ambient air pollutants during pregnancy are linked to increases in methylation of IL4, IL10, and IFNgamma.** *Clinical epigenetics*
Aguilera, J., Han, X., Cao, S., Balmes, J., Lurmann, F., Tyner, T., Lutzker, L., Noth, E., Hammond, S. K., Sampath, V., Burt, T., Utz, P. J., Khatri, et al
2022; 14 (1): 40
- **Single-Cell Immune Mapping of Melanoma Sentinel Lymph Nodes Reveals an Actionable Immunotolerant Microenvironment.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Yaddanapudi, K., Stamp, B. F., Subrahmanyam, P. B., Smolenkov, A., Waigel, S. J., Gosain, R., Egger, M. E., Martin, R. C., Buscaglia, R., Maecker, H. T., McMasters, K. M., Chesney, J. A.
1800
- **Early non-neutralizing, afucosylated antibody responses are associated with COVID-19 severity.** *Science translational medicine*
Chakraborty, S., Gonzalez, J. C., Sievers, B. L., Mallajosyula, V., Chakraborty, S., Dubey, M., Ashraf, U., Cheng, B. Y., Kathale, N., Tran, K. Q., Scallan, C., Sinnott, A., Cassidy, et al
1800: eabm7853
- **Disease characteristics and serological responses in patients with differing severity of COVID-19 infection: A longitudinal cohort study in Dhaka, Bangladesh.** *PLoS neglected tropical diseases*
Aker, A., Ahmed, T., Tauheed, I., Akhtar, M., Rahman, S. I., Khaton, F., Ahmmed, F., Ferdous, J., Afrad, M. H., Kawser, Z., Hossain, M., Khondaker, R., Hasnat, et al
2022; 16 (1): e0010102
- **Mass Cytometry Assessment of Cell Phenotypes and Signaling States in Human Whole Blood.** *Methods in molecular biology (Clifton, N.J.)*
Sigal, N., Maecker, H. T.
2022; 2543: 113-128
- **Insulin Growth Factor Phenotypes in Heart Failure with Preserved Ejection Fraction, an INSPIRE Registry and CATHGEN Study: IGF axis in HFpEF.** *Journal of cardiac failure*
Haddad, F., Ataam, J. A., Amsellem, M., Cauwenberghs, N., Kuznetsova, T., Rosenberg-Hasson, Y., Zamanian, R. T., Karakikes, I., Horne, B. D., Muhlestein, J. B., Kwee, L., Shah, S., Maecker, et al

1800

- **Inflammatory cytokines and callosal white matter microstructure in adolescents.** *Brain, behavior, and immunity*
Ho, T. C., Kulla, A., Teresi, G. I., Sisk, L. M., Rosenberg-Hasson, Y., Maecker, H. T., Gotlib, I. H.
1800
- **Platelet transcriptome identifies progressive markers and potential therapeutic targets in chronic myeloproliferative neoplasms.** *Cell reports. Medicine*
Shen, Z., Du, W., Perkins, C., Fechter, L., Natu, V., Maecker, H., Rowley, J., Gotlib, J., Zehnder, J., Krishnan, A.
2021; 2 (10): 100425
- **Development of immunosuppressive myeloid cells to induce tolerance in solid organ and hematopoietic cell transplant recipients.** *Blood advances*
Jensen, K. P., Hongo, D., Ji, X., Zheng, P., Pawar, R. D., Wu, H., Busque, S., Scandling, J. D., Shizuru, J. A., Lowsky, R., Shori, A., Dutt, S., Waters, et al
2021
- **Novel circulating and tissue monocytes as well as macrophages in pancreatitis and recovery.** *Gastroenterology*
Manohar, M., Jones, E. K., Rubin, S. J., Subrahmanyam, P. B., Swaminathan, G., Mikhail, D., Bai, L., Singh, G., Wei, Y., Sharma, V., Siebert, J. C., Maecker, H. T., Husain, et al
2021
- **Brief report: Tempol, a novel antioxidant, inhibits both activated T cell and antigen presenting cell derived cytokines in-vitro from COVID-19 patients.** *Clinical immunology (Orlando, Fla.)*
Mathi, K., Rosenberg-Hasson, Y., Maecker, H., Carlo, D. J., Moss, R. B.
2021: 108828
- **Immunophenotyping assessment in a COVID-19 cohort (IMPACC): A prospective longitudinal study** *SCIENCE IMMUNOLOGY*
Rouphael, N., Maecker, H., Montgomery, R. R., Diray-Arce, J., Kleinstein, S. H., Altman, M. C., Bosinger, S. E., Eckalbar, W., Guan, L., Hough, C. L., Krammer, F., Langelier, C., Levy, et al
2021; 6 (62)
- **IL-7 expands lymphocyte populations and enhances immune responses to sipuleucel-T in patients with metastatic castration-resistant prostate cancer (mCRPC).** *Journal for immunotherapy of cancer*
Pachynski, R. K., Morishima, C., Szmulewitz, R., Harshman, L., Appleman, L., Monk, P., Bitting, R. L., Kucuk, O., Millard, F., Seigne, J. D., Fling, S. P., Maecker, H. T., Duault, et al
2021; 9 (8)
- **Novel Circulating and Tissue Monocytes As Well As Macrophages in Pancreatitis and Recovery**
Manohar, M., Jones, E. K., Rubin, S. S., Subrahmanyam, P. B., Mikhail, D., Bai, L., Singh, G., Wei, Y., Sharma, V., Swaminathan, G., Siebert, J. C., Maecker, H. T., Park, et al
LIPPINCOTT WILLIAMS & WILKINS.2021: 1079-1080
- **Protective Effect of Saffron in Mouse Colitis Models Through Immune Modulation.** *Digestive diseases and sciences*
Singh, G., Haileselassie, Y., Ji, A. R., Maecker, H. T., Sinha, S. R., Brim, H., Habtezion, A., Ashktorab, H.
2021
- **Multi-Center Immune Profiling Mass Cytometry Assay Harmonization.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Sahaf, B., Pichavant, M., Lee, B. H., Duault, C., Thrash, E. M., Davila, M., Fernandez, N., Millerchip, K., Bentebibel, S., Haymaker, C., Sigal, N., Del Valle, D. M., Ranasinghe, et al
2021
- **An inflammatory aging clock (iAge) based on deep learning tracks multimorbidity, immunosenescence, frailty and cardiovascular aging.** *Nature aging*
Sayed, N., Huang, Y., Nguyen, K., Krejciova-Rajaniemi, Z., Grawe, A. P., Gao, T., Tibshirani, R., Hastie, T., Alpert, A., Cui, L., Kuznetsova, T., Rosenberg-Hasson, Y., Ostan, et al
2021; 1: 598-615
- **The single-cell epigenomic and transcriptional landscape of immunity to influenza vaccination.** *Cell*
Wimmers, F., Donato, M., Kuo, A., Ashuach, T., Gupta, S., Li, C., Dvorak, M., Foecke, M. H., Chang, S. E., Hagan, T., De Jong, S. E., Maecker, H. T., van der Most, et al
2021
- **Dynamic Serial Cytokine Measurements During Intravenous Ca-DTPA Chelation in Gadolinium Deposition Disease and Gadolinium Storage Condition: A Pilot Study.** *Investigative radiology*

- Maecker, H. T., Siebert, J. C., Rosenberg-Hasson, Y., Koran, L. M., Ramalho, M., Semelka, R. C.
2021
- **Activated Natural Killer Cells Predict Poor Clinical Prognosis in High-risk B- and T- cell Acute Lymphoblastic Leukemia.** *Blood*
Duault, C., Kumar, A., Taghi Khani, A., Lee, S. J., Yang, L., Huang, M., Hurtz, C., Manning, B., Ghoda, L. Y., McDonald, T., Lacayo, N. J., Sakamoto, K. M., Carroll, et al
2021
 - **Association of Premature Immune Aging and Cytomegalovirus After Solid Organ Transplant.** *Frontiers in immunology*
Higdon, L. E., Gustafson, C. E., Ji, X., Sahoo, M. K., Pinsky, B. A., Margulies, K. B., Maecker, H. T., Goronzy, J., Maltzman, J. S.
2021; 12: 661551
 - **Immune profiling of COVID-19: preliminary findings and implications for the pandemic.** *Journal for immunotherapy of cancer*
Maecker, H. T.
2021; 9 (5)
 - **Immune Changes Beyond Th2 Pathways During Rapid Multifood Immunotherapy enabled with Omalizumab.** *Allergy*
Manohar, M., Dunham, D., Gupta, S., Yan, Z., Zhang, W., Minnicozzi, S., Kirkey, M., Bunning, B., Chowdhury, R. R., Galli, S. J., Boyd, S. D., Kost, L. E., Chinthrajah, et al
2021
 - **Functional monocytic myeloid-derived suppressor cells increase in blood but not airways and predict COVID-19 severity** *JOURNAL OF CLINICAL INVESTIGATION*
Falck-Jones, S., Vangeti, S., Yu, M., Falck-Jones, R., Cagigi, A., Badolati, I., Osterberg, B., Lautenbach, M., Ahlberg, E., Lin, A., Lepzien, R., Szurgot, I., Lenart, et al
2021; 131 (6)
 - **Safety and Efficacy of B-Cell Depletion with Rituximab for the Treatment of Systemic Sclerosis Associated Pulmonary Arterial Hypertension: A Multi-center, Double-blind, Randomized, Placebo-controlled Trial.** *American journal of respiratory and critical care medicine*
Zamanian, R. T., Badesch, D., Chung, L., Domsic, R. T., Medsger, T., Pinckney, A., Keyes-Elstein, L., D'Aveta, C., Spychala, M., White, R. J., Hassoun, P. M., Torres, F., Sweatt, et al
2021
 - **Aging and CMV discordance are associated with increased immune diversity between monozygotic twins.** *Immunity & ageing : I & A*
Yan, Z., Maecker, H. T., Brodin, P., Nygaard, U. C., Lyu, S. C., Davis, M. M., Nadeau, K. C., Andorf, S.
2021; 18 (1): 5
 - **Network for biomarker immunoprofiling for cancer immunotherapy: Cancer Immune Monitoring and Analysis Centers and Cancer Immunologic Data Commons (CIMAC-CIDC).** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Chen, H. X., Song, M., Maecker, H. T., Gnjatic, S., Patton, D., Lee, J. J., Adam, S. J., Moravec, R., Liu, X. S., Cerami, E., Lindsay, J., Hodi, F. S., Wu, et al
2021
 - **Acute Chelation Therapy-Associated Changes in Urine Gadolinium, Self-reported Flare Severity, and Serum Cytokines in Gadolinium Deposition Disease.** *Investigative radiology*
Maecker, H. T., Siebert, J. C., Rosenberg-Hasson, Y. n., Koran, L. M., Ramalho, M. n., Semelka, R. C.
2021
 - **Altered Functional Mitochondrial Protein Levels in Plasma Neuron-Derived Extracellular Vesicles of Patients With Gadolinium Deposition.** *Frontiers in toxicology*
Goetzl, E. J., Maecker, H. T., Rosenberg-Hasson, Y., Koran, L. M.
2021; 3: 797496
 - **Systems vaccinology of the BNT162b2 mRNA vaccine in humans.** *Nature*
Arunachalam, P. S., Scott, M. K., Hagan, T., Li, C., Feng, Y., Wimmers, F., Grigoryan, L., Trisal, M., Edara, V. V., Lai, L., Chang, S. E., Feng, A., Dhingra, et al
2021
 - **Signatures of immune dysfunction in HIV and HCV infection share features with chronic inflammation in aging and persist after viral reduction or elimination.** *Proceedings of the National Academy of Sciences of the United States of America*
Lopez Angel, C. J., Pham, E. A., Du, H. n., Vallania, F. n., Fram, B. J., Perez, K. n., Nguyen, T. n., Rosenberg-Hasson, Y. n., Ahmed, A. n., Dekker, C. L., Grant, P. M., Khatri, P. n., Maecker, et al
2021; 118 (14)

- **Mass Cytometry Analysis of T-Helper Cells.** *Methods in molecular biology (Clifton, N.J.)*
Subrahmanyam, P. B., Maecker, H. T.
2021; 2285: 49–63
- **Higher Levels of Pro-inflammatory Cytokines Are Associated With Higher Levels of Glutamate in the Anterior Cingulate Cortex in Depressed Adolescents.** *Frontiers in psychiatry*
Ho, T. C., Teresi, G. I., Segarra, J. R., Ojha, A., Walker, J. C., Gu, M., Spielman, D. M., Sacchet, M. D., Jiang, F., Rosenberg-Hasson, Y., Maecker, H., Gotlib, I. H.
2021; 12: 642976
- **Mass Cytometry Defines Virus-Specific CD4+ T Cells in Influenza Vaccination.** *ImmunoHorizons*
Subrahmanyam, P. B., Holmes, T. H., Lin, D., Su, L. F., Obermoser, G., Banchereau, J., Pascual, V., Garcia-Sastre, A., Albrecht, R. A., Palucka, K., Davis, M. M., Maecker, H. T.
2020; 4 (12): 774–88
- **Vi-Vaccinations Induce Heterogeneous Plasma Cell Responses That Associate With Protection From Typhoid Fever** *FRONTIERS IN IMMUNOLOGY*
Cross, D. L., Verheul, M. K., Leipold, M. D., Obermoser, G., Jin, C., Jones, E., Starr, J. S., Mohorianu, I., Blohmke, C. J., Maecker, H. T., Napolitani, G., Hill, J., Pollard, et al
2020; 11
- **SITC cancer immunotherapy resource document: a compass in the land of biomarker discovery.** *Journal for immunotherapy of cancer*
Hu-Lieskovan, S., Bhaumik, S., Dhodapkar, K., Grivel, J. J., Gupta, S., Hanks, B. A., Janetzki, S., Kleen, T. O., Koguchi, Y., Lund, A. W., Maccalli, C., Mahnke, Y. D., Novosiadly, et al
2020; 8 (2)
- **Study Protocol for Teen Inflammation Glutamate Emotion Research (TIGER)** *FRONTIERS IN HUMAN NEUROSCIENCE*
Walker, J. C., Teresi, G. I., Weisenburger, R. L., Segarra, J. R., Ojha, A., Kulla, A., Sisk, L., Gu, M., Spielman, D. M., Rosenberg-Hasson, Y., Maecker, H. T., Singh, M. K., Gotlib, et al
2020; 14
- **Immune biomarkers link air pollution exposure to blood pressure in adolescents.** *Environmental health : a global access science source*
Prunicki, M., Cauwenberghs, N., Ataam, J. A., Movassagh, H., Kim, J. B., Kuznetsova, T., Wu, J. C., Maecker, H., Haddad, F., Nadeau, K.
2020; 19 (1): 108
- **An initial investigation of serum cytokine levels in patients with gadolinium retention.** *Radiologia brasileira*
Maecker, H. T., Wang, W., Rosenberg-Hasson, Y., Semelka, R. C., Hickey, J., Koran, L. M.
2020; 53 (5): 306–13
- **Systems biological assessment of immunity to mild versus severe COVID-19 infection in humans.** *Science (New York, N.Y.)*
Arunachalam, P. S., Wimmers, F., Mok, C. K., Perera, R. A., Scott, M., Hagan, T., Sigal, N., Feng, Y., Bristow, L., Tak-Yin Tsang, O., Wagh, D., Collier, J., Pellegrini, et al
2020
- **Transcriptional changes in peanut-specific CD4+ T cells over the course of oral immunotherapy.** *Clinical immunology (Orlando, Fla.)*
Wang, W., Lyu, S., Ji, X., Gupta, S., Manohar, M., Dhondalay, G. K., Chinthrajah, S., Andorf, S., Boyd, S. D., Tibshirani, R., Galli, S. J., Nadeau, K. C., Maecker, et al
2020: 108568
- **Cytokine profile in plasma of severe COVID-19 does not differ from ARDS and sepsis.** *JCI insight*
Wilson, J. G., Simpson, L. J., Ferreira, A., Rustagi, A., Roque, J. A., Asuni, A., Ranganath, T., Grant, P. M., Subramanian, A. K., Rosenberg-Hasson, Y., Maecker, H., Holmes, S., Levitt, et al
2020
- **MYC functions as a switch for natural killer cell-mediated immune surveillance of lymphoid malignancies.** *Nature communications*
Swaminathan, S., Hansen, A. S., Hefdal, L. D., Dhanasekaran, R., Deutzmann, A., Fernandez, W. D., Liefwalker, D. F., Horton, C., Mosley, A., Liebersbach, M., Maecker, H. T., Felsher, D. W.
2020; 11 (1): 2860
- **A Novel Utility to Correct for Plate/Batch/Lot and Nonspecific Binding Artifacts in Luminex Data.** *Journal of immunology (Baltimore, Md. : 1950)*
Maecker, H. T., Rosenberg-Hasson, Y., Kolstad, K. D., Steen, V. D., Chung, L. S.
2020

- **JAK-STAT Activity in Peripheral Blood Cells and Kidney Tissue in IgA Nephropathy.** *Clinical journal of the American Society of Nephrology : CJASN*
Tao, J., Mariani, L., Eddy, S., Maecker, H., Kambham, N., Mehta, K., Hartman, J., Wang, W., Kretzler, M., Lafayette, R. A.
2020
- **A Prospective, Phase 1 Trial of Nivolumab, Ipilimumab, and Radiotherapy in Patients with Advanced Melanoma.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Postow, M. A., Knox, S. J., Goldman, D. A., Elhanati, Y., Mavinkurve, V., Wong, P., Halpenny, D. F., Reddy, S. A., Vado, K. P., McCabe, D., Ramirez, K. A., Macri, M., Schwarzenberger, et al
2020
- **Impaired Immune Health in Survivors of Diffuse Large B-Cell Lymphoma.** *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*
Shree, T., Li, Q., Glaser, S. L., Brunson, A., Maecker, H. T., Haile, R. W., Levy, R., Keegan, T. H.
2020: JCO1901937
- **High-Parametric Evaluation of Human Invariant Natural Killer T Cells to Delineate Heterogeneity in Allo- and Autoimmunity.** *Blood*
Erkers, T., Xie, B., Kenyon, L. J., Smith, B., Rieck, M., Jensen, K. P., Ji, X., Basina, M., Strober, S., Negrin, R. S., Maecker, H. T., Meyer, E.
2020
- **The Application of Cytokine Expression Assays to Differentiate Active From Previously Treated Syphilis.** *The Journal of infectious diseases*
Kojima, N. n., Siebert, J. C., Maecker, H. n., Rosenberg-Hasson, Y. n., Leon, S. R., Vargas, S. K., Konda, K. A., Caceres, C. F., Klausner, J. D.
2020; 222 (4): 690–94
- **Autoantibody-positive healthy individuals with lower lupus risk display a unique immune endotype.** *The Journal of allergy and clinical immunology*
Slight-Webb, S. n., Smith, M. n., Bylinska, A. n., Macwana, S. n., Guthridge, C. n., Lu, R. n., Merrill, J. T., Chakravarty, E. n., Arriens, C. n., Munroe, M. E., Maecker, H. T., Utz, P. J., Guthridge, et al
2020
- **Cardiovascular Complications in Patients with COVID-19: Consequences of Viral Toxicities and Host Immune Response** *Curr Cardiol Rep*
Zhu, H., Rhee, J., Cheng, P., Waliyany, S., Chang, A., Witteles, R. M., Maecker, H., Davis, M. M., Nguyen, P. K., Wu, S. M.
2020; 22 (5)
- **High-Parameter Immune Profiling with CyTOF.** *Methods in molecular biology (Clifton, N.J.)*
Sahaf, B., Rahman, A., Maecker, H. T., Bendall, S. C.
2020; 2055: 351–68
- **Immunologic effects of forest fire exposure show increases in IL-1# and CRP.** *Allergy*
Prunicki, M. M., Dant, C. C., Cao, S. n., Maecker, H. n., Haddad, F. n., Kim, J. B., Snyder, M. n., Wu, J. n., Nadeau, K. n.
2020
- **The FluPRINT dataset, a multidimensional analysis of the influenza vaccine imprint on the immune system.** *Scientific data*
Tomic, A., Tomic, I., Dekker, C. L., Maecker, H. T., Davis, M. M.
2019; 6 (1): 214
- **Guidelines for the use of flow cytometry and cell sorting in immunological studies (second edition).** *European journal of immunology*
Cossarizza, A., Chang, H., Radbruch, A., Acs, A., Adam, D., Adam-Klages, S., Agace, W. W., Aghaeepour, N., Akdis, M., Allez, M., Almeida, L. N., Alvisi, G., Anderson, et al
2019; 49 (10): 1457–1973
- **Reversal of epigenetic aging and immunosenescent trends in humans.** *Aging cell*
Fahy, G. M., Brooke, R. T., Watson, J. P., Good, Z., Vasanawala, S. S., Maecker, H., Leipold, M. D., Lin, D. T., Kobor, M. S., Horvath, S.
2019: e13028
- **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
- **Diminished B-Cell Response After Repeat Influenza Vaccination** *JOURNAL OF INFECTIOUS DISEASES*
Sanyal, M., Holmes, T. H., Maecker, H. T., Albrecht, R. A., Dekker, C. L., He, X., Greenberg, H. B.

2019; 219 (10): 1586–95

- **Vaccine-Induced Memory CD8(+) T Cells Provide Clinical Benefit in HER2 Expressing Breast Cancer: A Mouse to Human Translational Study** *CLINICAL CANCER RESEARCH*
Crosby, E. J., Gwin, W. R., Blackwell, K., Marcom, P., Chang, S., Maecker, H. T., Broadwater, G., Hyslop, T. M., Kim, S., Rogatko, A., Lubkov, V., Snyder, J. C., Osada, et al
2019; 25 (9): 2725–36
- **Getting the Most from Your High-Dimensional Cytometry Data.** *Immunity*
Olsen, L. R., Pedersen, C. B., Leipold, M. D., Maecker, H. T.
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