Stanford



Vivek Charu

Assistant Professor of Pathology and of Medicine (Computational Medicine)

CLINICAL OFFICE (PRIMARY)

- **Pathology**

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Bio

BIO

I am a physician and a biostatistician. My clinical expertise is in the diagnosis of non-neoplastic kidney and liver disease (including transplantation). My research interests center on the design of observational studies and clinical trials, the analysis of observational data, and causal inference.

CLINICAL FOCUS

- Anatomic and Clinical Pathology

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Pathology
- Assistant Professor-Univ Med Line, Computational Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION

- Board Certification: Anatomic Pathology, American Board of Pathology (2020)
- Medical Education: Johns Hopkins University School of Medicine (2017) MD
- PhD, Johns Hopkins University Bloomberg School of Public Health , Biostatistics (2017)
- Residency: Stanford University Pathology Residency (2020) CA

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Franz Arnold Ake, Elaheh Hashemi

Publications

PUBLICATIONS

- **The immune microenvironment of transplant glomerulitis** *Kidney International Reports*
  Bracey, N., Maltzman, J., Long, A., Dhanasekaran, R., Shankar, V., Mohsin, A., Kambham, N., Wernig, G., Gentles, A., Davis, M., Charu, V.
  2025: 3113-3127

- **Analysis of Sampling Bias in Large Health Care Claims Databases.** *JAMA network open*
  Dahlen, A., Charu, V.
  2023; 6 (1): e2249804

- **A COL4A4-G394S Variant and Impaired Collagen IV Trimerization in a Patient with Mild Alport Syndrome** *KIDNEY360*
  Kohler, J., Omachi, K., Charu, V., Miner, J. H., Bhalla, V.
  2022; 3 (11): 1899-1908

- **Novel CLC-Kb pore mutation associated with defective glycosylation and renal tubulopathy**
  Sharma, Y., Dong, W., Liao, X., Venkataraman, A., Qiao, Y., Francisco, C. V., Maduke, M., Charu, V., Kambham, N., Pochynyuk, O., Govaerts, C., Bhalla, V.
  OXFORD UNIV PRESS INC.2022: 1026-1027

- **CALIBRATION OF WAITLIST SURVIVAL PREDICTION BY MELD 3.0 IN THE PANDEMIC ERA**
  Wu, W., Chung, N., Vidovszky, A., Mannalithara, A., Melcher, M., Charu, V., Kwong, A. J., Kim, W.
  WILEY.2022: S76-S77

- **SPATIAL MULTI-OMIC IMMUNE PROFILING AND FUNCTIONAL CHARACTERIZATION OF HEPATOCELLULAR CARCINOMA (HCC) REVEAL MECHANISMS OF MINIMAL RESIDUAL DISEASE (MRD)**
  Suresh, A., Adeniji, N., Lemaitre, L., Charu, V., Dhanasekaran, R.
  WILEY.2022: S1278

- **ELEVATED SERUM ALKALINE PHOSPHATASE AS A MARKER OF A DISTINCT PHENOTYPE OF NON-ALCOHOLIC FATTY LIVER DISEASE**
  Sripongpun, P., Charu, V., Kwo, P., Goel, A., Torok, N. J., Kim, W.
  WILEY.2022: S866

- **THE WAIST-TO-HIP RATIO ADDS LITTLE TO THE STEATOSIS-ASSOCIATED FIBROSIS ESTIMATOR (SAFE) SCORE IN PREDICTING SIGNIFICANT FIBROSIS AMONG PATIENTS WITH NAFLD**
  Sripongpun, P., Charu, V., Kim, S. H., Kim, W.
  WILEY.2022: S792-S793

- **MELD 3.0 AS A PREDICTOR OF POST-TRANSPLANT OUTCOMES IN THE COVID ERA**
  Chung, N., Wu, W., Kwong, A. J., Charu, V., Mannalithara, A., Melcher, M., Kim, W.
  WILEY.2022: S77-S78

- **Environmental Pollutants are Associated with Irritable Bowel Syndrome in a Commercially Insured Cohort of California Residents.** *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*
  Okafor, P. N., Dahlen, A., Youssef, M., Olayode, A., Sonu, I., Neshatian, L., Nguyen, L., Charu, V.
  2022

- **The Utilization of Packed Red Blood Cell Transfusion and Angiography in Pediatric Inpatients after Kidney Biopsy in the United States.** *Kidney360*
  Afolabi, H., O'Shaughnessy, M. M., Charu, V.
  2022; 3 (8): 1423-1426

- **Performance of the Steatosis-Associated Fibrosis Estimator (SAFE) to predict F2 fibrosis and higher in a cohort of South Korean patients with non-alcoholic fatty liver disease (NAFLD)**
  Charu, V., Kwong, A., Mannalithara, A., Yoon, E., Jun, D., Kim, W.
  ELSEVIER.2022: S462

- **The Tabula Sapiens: A multiple-organ, single-cell transcriptomic atlas of humans.** *Science (New York, N.Y.)*

Jones, R. C., Karkanias, J., Krasnow, M. A., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaup, B., Brown, P., Harper, W., Hemenez, M., Ponnusamy, R., Salehi, et al

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  Sripongpun, P., Kim, W. R., Mannalithara, A., Charu, V., Vidovszky, A., Asch, S., Desai, M., Kim, S. H., Kwong, A. J.

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- **Publisher Correction: Cell types of origin of the cell-free transcriptome.** *Nature biotechnology*

  Vorperian, S. K., Moufarrej, M. N., Tabula Sapiens Consortium, Quake, S. R., Jones, R. C., Karkanias, J., Krasnow, M., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaup, B., Brown, P., et al

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- **Clinicopathologic features of non-lupus membranous nephropathy in a pediatric population.** *Pediatric nephrology (Berlin, Germany)*

  Miller, P., Lei, L., Charu, V., Higgins, J., Troxell, M., Kambham, N.

  2022

- **Complement-Binding Donor-Specific Anti-HLA Antibodies: Biomarker for Immunologic Risk Stratification in Pediatric Kidney Transplantation Recipients.** *Transplant international : official journal of the European Society for Organ Transplantation*

  Sigurjonsdottir, V. K., Purington, N., Chaudhuri, A., Zhang, B. M., Fernandez-Vina, M., Palsson, R., Kambham, N., Charu, V., Piburn, K., Maestretti, L., Shah, A., Gallo, A., Concepcion, et al

  2022; 35: 10158

- **EXT1 and NCAM1-associated membranous lupus nephritis in a cohort of patients undergoing repeat kidney biopsies.** *Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association*

  Miller, P. P., Caza, T., Larsen, C. P., Charu, V.

  2022

- **Case-control study to identify key residues and domains within hereditary renal disease gene panel to aid in VUS reclassification**

  Vincent, L., Punj, S., Sanapareddy, N., Naik, A., Smart, T., Gray, J., Francisco, R., Charu, V., Keen-Kim, J.

  ELSEVIER SCIENCE INC.2022: S202

- **EXT1 and NCAM1-associated Membranous Lupus Nephritis in a Cohort of Patients Undergoing Multiple Renal Biopsies**

  Miller, P., Caza, T., Larsen, C., Charu, V.

  SPRINGERNATURE.2022: 1174-1176

- **A Diverse Spectrum of Immune Complex-and Complement-Mediated Kidney Diseases Is Associated With Mantle Cell Lymphoma.** *Kidney international reports*

  Andeen, N. K., Abdulameer, S., Charu, V., Zuckerman, J. E., Troxell, M., Kambham, N., Alpers, C. E., Najafian, B., Nicosia, R. F., Smith, K. D., Kung, V. L., Avasare, R. S., Vallurupalli, et al

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- **EXT1 and NCAM1-associated Membranous Lupus Nephritis in a Cohort of Patients Undergoing Multiple Renal Biopsies**

  Miller, P., Caza, T., Larsen, C., Charu, V.

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- **Cell types of origin of the cell-free transcriptome.** *Nature biotechnology*

  Vorperian, S. K., Moufarrej, M. N., Tabula Sapiens Consortium, Quake, S. R., Jones, R. C., Karkanias, J., Krasnow, M., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaup, B., Brown, P., et al

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- **Complement-Binding Donor-Specific Anti-HLA Antibodies: Biomarker for Immunologic Risk Stratification in Pediatric Kidney Transplantation Recipients** *Transpl Int,*

  Sigurjonsdottir, V. K.

  2022; 35

- **National and International Kidney Failure Registries: Characteristics, Commonalities, and Contrasts.** *Kidney international*

  Ng, M. S., Charu, V., Johnson, D., O'Shaughnessy, M., Mallett, A. J.

  2021

- **RNA splicing programs define tissue compartments and cell types at single-cell resolution** *ELIFE*
  Olivieri, J., Dehghannasiri, R., Wang, P. L., Jang, S., de Morree, A., Tan, S. Y., Ming, J., Wu, A., Consortium, T., Quake, S. R., Krasnow, M. A., Salzman, J.
  2021; 10
- **Masking by hypokalemia-primary aldosteronism with undetectable aldosterone.** *Clinical kidney journal*
  Boyle, R. A., Baker, J. E., Charu, V., Rainey, W. E., Bhalla, V.
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- **Molecular Classification of Endometrial Carcinomas with Long-Term Follow-up**
  Hammer, P., Albro, J., Squires, C., Peters-Schulze, G., Sharp, B., Charu, V., Cessna, M., Howitt, B.
  SPRINGERNATURE.2021: 691–93
- **Clinicopathologic Features of Non-Lupus Membranous Nephropathy in the Pediatric Population**
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  SPRINGERNATURE.2021: 691–93
- **Classic Hodgkin lymphoma in Guatemalan children of age less than six years: analysis of immune regulatory pathways and the tumor microenvironment.** *Leukemia & lymphoma*
  Silva, O., Charu, V., Ewalt, M. D., Metcalf, R. A., Zhao, S., Castellanos, E. M., Orellana, E., Natkunam, Y., Luna-Fineman, S.
  2021: 1–13
- **Prospective molecular classification of endometrial carcinomas: institutional implementation, practice, and clinical experience.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*
  Devereaux, K. A., Weiel, J. J., Pors, J., Steiner, D. F., Ho, C., Charu, V., Suarez, C. J., Renz, M., Diver, E., Karam, A., Litkouhi, B., Dorigo, O., Kidd, et al
  2021
- **Histologic Case Definition of an Atypical Glomerular Immune-Complex Deposition Following Kidney Transplantation.** *Kidney international reports*
  Chin, K., Charu, V., O'Shaughnessy, M. M., Troxell, M. L., Cheng, X. S.
  2020; 5 (5): 632–42
- **Progression of Proliferative Glomerulonephritis with Monoclonal IgG Deposits in Pediatric Patients**
  Miller, P., Xiao, A., Kung, V., Sibley, R., Higgins, J., Kambham, N., Charu, V., Lenihan, C., Talley, E., Walavalkar, V., Laszik, G., Arora, N., Nast, et al
  NATURE PUBLISHING GROUP.2020: 1589–90
- **Class II HLA Serotype Associations with End-Stage Renal Disease due to Membranous Nephropathy among Caucasians in the United States**
  Charu, V., Tyan, D., Troxell, M., Kambham, N.
  NATURE PUBLISHING GROUP.2020: 1569–71
- **Progression of Proliferative Glomerulonephritis with Monoclonal IgG Deposits in Pediatric Patients**
  Miller, P., Xiao, A., Kung, V., Sibley, R., Higgins, J., Kambham, N., Charu, V., Lenihan, C., Talley, E., Walavalkar, V., Laszik, G., Arora, N., Nast, et al
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- **Class II HLA Serotype Associations with End-Stage Renal Disease due to Membranous Nephropathy among Caucasians in the United States**
  Charu, V., Tyan, D., Troxell, M., Kambham, N.
  NATURE PUBLISHING GROUP.2020: 1569–71
- **Multicenter Clinicopathologic Correlation of Kidney Biopsies Performed in COVID-19 Patients Presenting With Acute Kidney Injury or Proteinuria.** *American journal of kidney diseases : the official journal of the National Kidney Foundation*

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- **Membranous nephropathy in patients with HIV: a report of 11 cases.** *BMC nephrology*
  Charu, V. n., Andeen, N. n., Walavalkar, V. n., Lapasia, J. n., Kim, J. Y., Lin, A. n., Sibley, R. n., Higgins, J. n., Troxell, M. n., Kambham, N. n.
  2020; 21 (1): 401

- **Progression of proliferative glomerulonephritis with monoclonal IgG deposits in pediatric patients.** *Pediatric nephrology (Berlin, Germany)*
  Miller, P. n., Xiao, A. Y., Kung, V. L., Sibley, R. K., Higgins, J. P., Kambham, N. n., Charu, V. n., Lenihan, C. n., Uber, A. M., Talley, E. M., Arora, N. n., Walavalkar, V. n., Laszik, et al
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- **A review of non-immune mediated kidney disease in systemic lupus erythematosus: A hypothetical model of putative risk factors.** *Seminars in arthritis and rheumatism*
  Falasinnu, T., O'Shaughnessy, M. M., Troxell, M. L., Charu, V., Weisman, M. H., Simard, J. F.
  2019

- **Percutaneous Kidney Biopsy and the Utilization of Blood Transfusion and Renal Angiography Among Hospitalized Adults** *KIDNEY INTERNATIONAL REPORTS*
  Charu, V., O'Shaughnessy, M. M., Chertow, G. M., Kambham, N.
  2019; 4 (10): 1435–45

- **Percutaneous Kidney Biopsy and the Utilization of Blood Transfusion and Renal Angiography Among Hospitalized Adults.** *Kidney international reports*
  Charu, V., O'Shaughnessy, M. M., Chertow, G. M., Kambham, N.
  2019; 4 (10): 1435-1445

- **Long-term Trends and Clinical Outcomes of Inpatient Percutaneous Renal Biopsies in the United States, 2001-2013**
  Charu, V., O'Shaughnessy, M., Chertow, G., Kambham, N.
  NATURE PUBLISHING GROUP.2019

- **An analysis of mediastinal B cell lymphomas identifies metachronous occurrence of classic Hodgkin lymphoma (CHL), primary mediastinal large B-cell lymphoma (PMBL), and mediastinal gray-zone lymphoma (MGZL)**
  Lezama, L., Charu, V., Koo, M., Natkunam, Y.
  NATURE PUBLISHING GROUP.2019

- **An analysis of mediastinal B cell lymphomas identifies metachronous occurrence of classic Hodgkin lymphoma (CHL), primary mediastinal large B-cell lymphoma (PMBL), and mediastinal gray-zone lymphoma (MGZL)**
  Lezama, L., Charu, V., Koo, M., Natkunam, Y.
  NATURE PUBLISHING GROUP.2019

- **Long-term Trends and Clinical Outcomes of Inpatient Percutaneous Renal Biopsies in the United States, 2001-2013**
  Charu, V., O'Shaughnessy, M., Chertow, G., Kambham, N.
  NATURE PUBLISHING GROUP.2019

- **Global mortality associated with seasonal influenza epidemics: New burden estimates and predictors from the GLaMOR Project.** *Journal of global health*
  Paget, J. n., Spreeuwenberg, P. n., Charu, V. n., Taylor, R. J., Iuliano, A. D., Bresee, J. n., Simonsen, L. n., Viboud, C. n.
  2019; 9 (2): 020421

- **Immune checkpoint blockade as a potential therapeutic strategy for undifferentiated malignancies.** *Human pathology*
  Devereaux, K. A., Charu, V., Zhao, S., Charville, G. W., Bangs, C. D., van de Rijn, M., Cherry, A. M., Natkunam, Y.
  2018; 82: 39–45

- **Immune checkpoint blockade as a potential therapeutic strategy for undifferentiated malignancies** *HUMAN PATHOLOGY*
  Devereaux, K. A., Charu, V., Zhao, S., Charville, G. W., Bangs, C. D., van de Rijn, M., Cherry, A. M., Natkunam, Y.
  2018; 82: 39–45

- **Programmed death-1 ligands PD-L1 and PD-L2 show distinctive and restricted patterns of expression in lymphoma subtypes** *HUMAN PATHOLOGY*

Panjwani, P. K., Charu, V., DeLisser, M., Molina-Kirsch, H., Natkunam, Y., Zhao, S.
2018; 71: 91–99

- **Evaluating Post-Radiotherapy Laryngeal Function with Laryngeal Videostroboscopy in Early Stage Glottic Cancer.** *Frontiers in oncology*
  Marciscano, A. E., Charu, V. n., Starmer, H. M., Best, S. R., Quon, H. n., Hillel, A. T., Akst, L. M., Kiess, A. P.
  2017; 7: 124