

Stanford



'Young Joo' Sun

Instructor, Ophthalmology

Bio

ACADEMIC APPOINTMENTS

- Instructor, Ophthalmology

HONORS AND AWARDS

- Macular Degeneration Research Postdoctoral Fellow, BrightFocus Foundation (2021-2023)
- Dean's Postdoctoral Fellowship Finalist, Stanford School of Medicine (Jul. 2021)
- SUMS Seed Grant Program, Role: Co-PI (PI: Dr. Mahajan), Stanford Dean of Research (Jul. 2019)

PROFESSIONAL EDUCATION

- Postdoctoral Research Fellow, Stanford University , Ophthalmology (2023)
- Doctor of Philosophy, University of Iowa , Biochemistry (2019)
- Bachelor of Science, Yonsei University , Systems Biology (2013)

Publications

PUBLICATIONS

- **Macular dystrophy in Kabuki syndrome due to de novo KMT2D variants: refining the phenotype with multimodal imaging and follow-up over 10 years: insight into pathophysiology.** *Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie*
Vaclavik, V., Navarro, A., Jacot-Guillarmod, A., Bottani, A., Sun, Y. J., Franco, J. A., Mahajan, V. B., Smirnov, V., Bouvet-Drumare, I. 2024
- **Liquid-biopsy proteomics combined with AI identifies cellular drivers of eye aging and disease in vivo.** *Cell*
Wolf, J., Rasmussen, D. K., Sun, Y. J., Vu, J. T., Wang, E., Espinosa, C., Bigini, F., Chang, R. T., Montague, A. A., Tang, P. H., Mruthyunjaya, P., Aghaeepour, N., Dufour, et al
2023
- **Unleashing the potential of CRISPR multiplexing: Harnessing Cas12 and Cas13 for precise gene modulation in eye diseases.** *Vision research*
Bigini, F., Lee, S. H., Sun, Y. J., Sun, Y., Mahajan, V. B.
2023; 213: 108317
- **Conjunctival Swabs Reveal Higher Detection Rate Compared to Schirmer Strips for SARS-CoV-2 RNA Detection in Tears of Hospitalized COVID-19 Patients.** *Journal of clinical medicine*
Sabage, L. E., Sun, Y. J., Wolf, J., Sabage, J., Mazzo, A., Santos, C. F., Mahajan, V. B., Manzoni Lourençone, L. F.
2022; 11 (23)
- **Protocol to quantify enzymatic effects on vitreous liquefaction in porcine eyes using a transwell-plate system.** *STAR protocols*
Wolf, J., Sabage, L. E., Sun, Y. J., Mahajan, V. B.

2022; 3 (4): 101754

● **Calpains as mechanistic drivers and therapeutic targets for ocular disease.** *Trends in molecular medicine*

Vu, J. T., Wang, E., Wu, J., Sun, Y. J., Velez, G., Bassuk, A. G., Lee, S. H., Mahajan, V. B.
2022

● **Expanding the phenotype of TTLL5-associated retinal dystrophy: a case series.** *Orphanet journal of rare diseases*

Oh, J. K., Vargas Del Valle, J. G., Lima de Carvalho, J. R., Sun, Y. J., Levi, S. R., Ryu, J., Yang, J., Nagasaki, T., Emanuelli, A., Rasool, N., Allikmets, R., Sparrow, J. R., Izquierdo, et al
2022; 17 (1): 146

● **A protocol to inject ocular drug implants into mouse eyes.** *STAR protocols*

Lin, C., Sun, Y. J., Lee, S. H., Mujica, E. M., Kunchur, C. R., Wu, M., Yang, J., Jung, Y. S., Chiang, B., Wang, S., Mahajan, V. B.
2022; 3 (1): 101143

● **New COL6A6 Variant Causes Autosomal Dominant Retinitis Pigmentosa in a Four-Generation Family.** *Investigative ophthalmology & visual science*

Vaclavik, V., Tiab, L., Sun, Y. J., Mahajan, V. B., Moulin, A., Allaman-Pillet, N., Munier, F. L., Schorderet, D. F.
2022; 63 (3): 23

● **An intravitreal implant injection method for sustained drug delivery into mouse eyes.** *Cell reports methods*

Sun, Y. J., Lin, C., Wu, M., Lee, S. H., Yang, J., Kunchur, C. R., Mujica, E. M., Chiang, B., Jung, Y. S., Wang, S., Mahajan, V. B.
2021; 1 (8)

● **A Fluorescence-Based Assay to Determine PDZ-Ligand Binding Thermodynamics.** *Methods in molecular biology (Clifton, N.J.)*

Sun, Y. J., Fuentes, E. J.
2021; 2256: 137-148

● **Peptidomimetics Therapeutics for Retinal Disease.** *Biomolecules*

Parsons, D. E., Lee, S. H., Sun, Y. J., Velez, G., Bassuk, A. G., Smith, M., Mahajan, V. B.
2021; 11 (3)

● **Structure-based phylogeny identifies Avorolstat as a TMPRSS2 inhibitor that prevents SARS-CoV-2 infection in mice.** *The Journal of clinical investigation*

Sun, Y. J., Velez, G. n., Parsons, D. E., Li, K. n., Ortiz, M. E., Sharma, S. n., McCray, P. B., Bassuk, A. G., Mahajan, V. B.
2021

● **A physics-based energy function allows the computational redesign of a PDZ domain.** *Scientific reports*

Opuu, V., Sun, Y. J., Hou, T., Panel, N., Fuentes, E. J., Simonson, T.
2020; 10 (1): 11150

● **Novel PRPF31 gene loss of function for retinitis pigmentosa 11**

Chemudupati, T., Sun, Y., Yang, J., Ng, B., Mahajan, V. B.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020

● **Structural Insights into the Unique Activation Mechanisms of a Non-classical Calpain and Its Disease-Causing Variants.** *Cell reports*

Velez, G., Sun, Y. J., Khan, S., Yang, J., Herrmann, J., Chemudupati, T., McLaren, R. E., Gakhar, L., Wakatsuki, S., Bassuk, A. G., Mahajan, V. B.
2020; 30 (3): 881

● **SGEF forms a complex with Scribble and Dlg1 and regulates epithelial junctions and contractility** *JOURNAL OF CELL BIOLOGY*

Awadia, S., Hug, F., Arnold, T. H., Goicoechea, S. M., Sun, Y., Hou, T., Kreider-Letterman, G., Massimi, P., Banks, L., Fuentes, E. J., Miller, A. L., Garcia-Mata, R.
2019; 218 (8): 2699–2725

● **Biochemical and Structural Characterization of De Novo Designed PDZ Domains**

Fuentes, E. J., Sun, Y., Sternke, M., Opoo, V., Panel, N., Barrick, D., Simonson, T.
CELL PRESS.2019: 320A

● **Novel mutations in the 3-box motif of the BACK domain of KLHL7 associated with nonsyndromic autosomal dominant retinitis pigmentosa.** *Orphanet journal of rare diseases*

Oh, J. K., Lima de Carvalho, J. R., Sun, Y. J., Ragi, S. n., Yang, J. n., Levi, S. R., Ryu, J. n., Bassuk, A. G., Mahajan, V. B., Tsang, S. H.
2019; 14 (1): 295

- **A Simple PB/LIE Free Energy Function Accurately Predicts the Peptide Binding Specificity of the Tiam1 PDZ Domain.** *Frontiers in molecular biosciences*
Panel, N., Sun, Y. J., Fuentes, E. J., Simonson, T.
2017; 4: 65
- **Distinct Roles for Conformational Dynamics in Protein-Ligand Interactions.** *Structure (London, England : 1993)*
Liu, X., Speckhard, D. C., Shepherd, T. R., Sun, Y. J., Hengel, S. R., Yu, L., Fowler, C. A., Gakhar, L., Fuentes, E. J.
2016; 24 (12): 2053-2066