

# Stanford

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## Prima Dewi Sinawang

Ph.D. Student in Chemical Engineering, admitted Summer 2019

### Bio

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#### HONORS AND AWARDS

- Co-PI, Mikitani Cancer Research Fund, Stanford Cancer Institute, Cancer Imaging and Early Detection Program
- Co-I, Bio-X Interdisciplinary Initiatives Seed Grant, Round 11, Stanford University
- Canary-ACED Graduate Fellowship in Cancer Early Detection, Stanford University
- Outstanding Teaching Assistant Award, Chemical Engineering, Stanford University
- Cancer Imaging and Early Detection Program Scholarship, Stanford Cancer Institute
- James D. Plummer Graduate Fellowship, School of Engineering, Stanford University
- Summer First Fellowship, School of Engineering, Stanford University
- EDGE-STEM Doctoral Fellowship, Vice Provost of Graduate Education, Stanford University
- 1st Prize, Best Poster Presentation, Bio-X Conference, Israel
- 1st Prize, Best Poster Presentation, Bio-X Conference, Singapore
- President Research Scholar, Nanyang Technological University, Singapore
- Top 6 HydroPreneur Challenge, Hydro Pitch Day, Singapore International Water Week
- Tuition Grant, Ministry of Education, Singapore

#### PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Full Member, Sigma Xi The Scientific Research Honor Society (2024 - present)
- Junior Member, International Society of Extracellular Vesicles (2024 - present)
- Member, American Association of Extracellular Vesicles (2025 - present)

#### EDUCATION AND CERTIFICATIONS

- M.S., Stanford University, Stanford, CA , Bioengineering
- Student Researcher, Imperial College London, UK , Bioengineering
- B.Eng. (Hons.), Nanyang Technological University, Singapore , Chemical and Biomolecular Engineering

### Publications

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#### PUBLICATIONS

- **Engineering and biofabrication of early cancer models** *NATURE REVIEWS BIOENGINEERING*  
Helms, H. R., Davies, A. E., Schutt, C. E., Langer, E. M., Duhon, R., Sinawang, P., Akin, D., Demirci, U., Esener, S. C., Fitzgerald, R. C., Bertassoni, L. E.

2025

- **A microneedle device for rapid dermal interstitial fluid sampling.** *Science advances*  
Hung, A. H., Kamat, N. U., Bermudez, A., Boczek, S. M., Garcia-Marqués, F. J., Tan, Y. L., Hwang, J. L., Sinawang, P. D., Ilyin, D., Jacobson, G. B., Demirci, U., Poplack, S. P., Pitteri, et al  
2025; 11 (39): eadx5492
- **Extracellular Vesicles in Serum Carry Trop2 Protein as a Potential Molecular Indicator in Prostate Cancer.** *Journal of extracellular biology*  
Sinawang, P. D., Ozen, M. O., Liu, S., Hsu, E. C., Akin, D., Ding, E., Nolley, R., Brooks, J. D., Stoyanova, T., Demirci, U.  
2025; 4 (9): e70083
- **Plasma Preparation Strategies for Extracellular Vesicle-Based Biomarkers in Metastatic Castration-Resistant Prostate Cancer.** *Journal of extracellular biology*  
Sinawang, P. D., Multani, P., Ozen, M. O., Wong, J., Akin, D., Hanson, C., Larsen, M., Ampaw, E., Rondina, M. T., Tolley, N. D., Wang, L., Cunningham, B. T., Kohli, et al  
2025; 4 (8): e70071
- **Screw-Based Pill for Intelligent Robotic Extraction of Viscous Fluids in Medical Applications** *ADVANCED INTELLIGENT SYSTEMS*  
Sinawang, P., Garcia-Gradilla, V., Soto, F., Akin, D., Braunreuther, M., Fuller, G. G., Demirci, U.  
2025
- **PpIX-enabled fluorescence-based detection and photodynamic priming of platinum-resistant ovarian cancer cells under fluid shear stress.** *Photochemistry and photobiology*  
Ruhi, M. K., Rickard, B. P., Overchuk, M., Sinawang, P. D., Stanley, E., Mansi, M., Sierra, R. G., Hayes, B., Tan, X., Akin, D., Chen, B., Demirci, U., Rizvi, et al  
2024
- **Integrated "lab-on-a-chip" microfluidic systems for isolation, enrichment, and analysis of cancer biomarkers.** *Lab on a chip*  
Surappa, S., Multani, P., Parlatan, U., Sinawang, P. D., Kaifi, J., Akin, D., Demirci, U.  
2023
- **Methods to Evaluate Changes in Mitochondrial Structure and Function in Cancer.** *Cancers*  
Rickard, B. P., Overchuk, M., Chappell, V. A., Kemal Ruhi, M., Sinawang, P. D., Nguyen Hoang, T. T., Akin, D., Demirci, U., Franco, W., Fenton, S. E., Santos, J. H., Rizvi, I.  
2023; 15 (9)
- **Review of HIV Self Testing Technologies and Promising Approaches for the Next Generation.** *Biosensors*  
Bacon, A., Wang, W., Lee, H., Umrao, S., Sinawang, P. D., Akin, D., Khemtonglang, K., Tan, A., Hirshfield, S., Demirci, U., Wang, X., Cunningham, B. T.  
2023; 13 (2)
- **Robotic Pill for Biomarker and Fluid Sampling in the Gastrointestinal Tract** *ADVANCED INTELLIGENT SYSTEMS*  
Soto, F., Purcell, E., Ozen, M., Sinawang, P., Wang, J., Akin, D., Demirci, U.  
2022
- **Progress and challenges in biomarker enrichment for cancer early detection.** *Progress in biomedical engineering (Bristol, England)*  
Sinawang, P. D., Soto, F., Ozen, M. O., Akin, D., Demirci, U.  
2021; 3 (4)
- **Cost-Effectiveness Analysis of Fenestrated Endovascular Aneurysm Repair Compared With Open Surgical Repair for Patients With Juxtarenal Abdominal Aortic Aneurysms**  
George, E. L., Nardacci, L., Sinawang, P., Rao, I., Owens, D. K., Garcia-Toca, M.  
MOSBY-ELSEVIER.2019: E244–E245
- **TEMPO-based immuno-lateral flow quantitative detection of dengue NS1 protein** *SENSORS AND ACTUATORS B-CHEMICAL*  
Sinawang, P., Fajs, L., Elouarzaki, K., Nugraha, J., Marks, R. S.  
2018; 259: 354–63
- **Photoinducible silane diazirine as an effective crosslinker in the construction of a chemiluminescent immunosensor targeting a model E. coli analyte** *SENSORS AND ACTUATORS B-CHEMICAL*  
Ye, K., Sinawang, P., Tok, A., Marks, R. S.

2018; 256: 234–42

- **Rapid and label-free electrochemical DNA biosensor for detecting hepatitis A virus** *BIOSENSORS & BIOELECTRONICS*  
Manzano, M., Viezzi, S., Mazerat, S., Marks, R. S., Vidic, J.  
2018; 100: 89–95
- **Electrochemical impedimetric detection of stroke biomarker NT-proBNP using disposable screen-printed gold electrodes** *EUROBIOTECH JOURNAL*  
Sinawang, P., Harpaz, D., Fajs, L., Seet, R., Tok, A., Marks, R. S.  
2017; 1 (2): 165–76
- **Electrochemical lateral flow immunosensor for detection and quantification of dengue NS1 protein** *BIOSENSORS & BIOELECTRONICS*  
Sinawang, P., Rai, V., Ionescu, R. E., Marks, R. S.  
2016; 77: 400–408
- **Lateral Flow Immunoassays - from Paper Strip to Smartphone Technology** *ELECTROANALYSIS*  
Eltzov, E., Guttel, S., Kei, A., Sinawang, P., Ionescu, R. E., Marks, R. S.  
2015; 27 (9): 2116–30
- **Optimizing aerosolization efficiency of dry-powder aggregates of thermally-sensitive polymeric nanoparticles produced by spray-freeze-drying** *POWDER TECHNOLOGY*  
Kho, K., Hadinoto, K.  
2011; 214 (1): 169–76