Stanford

# Sanna Elizabeth Herwald

Adjunct Clinical Instructor [Shc], Radiology

## Bio

### BIO

Sanna Herwald received her M.D. and Ph.D. degrees from Tufts University. Her Ph.D. research in the field of Microbiology focused on the opportunistic fungal pathogen Candida albicans. During her time in the M.D.-Ph.D. program she discovered her interest in Radiology, and the possibilities for visualizing the interaction between microorganisms and the human body.

### PROFESSIONAL EDUCATION

- Internship, California Pacific Medical Center , Internal Medicine (2020)
- MD, Tufts University School of Medicine (2019)
- PhD, Tufts University, Department of Molecular Biology and Microbiology , Molecular Microbiology (2019)
- BA, Pomona College , Molecular Biology (2010)

## Publications

### PUBLICATIONS

- **Label-free monitoring of embolotherapy via catheter electrochemical impedance spectroscopy.** *Scientific reports*
  Vezeridis, A. M., Herwald, S. E., Paik, K. H., Daniel, B. L., Sze, D. Y.
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- **Design and implementation of a cost-effective, open-source, and programmable pulsatile flow system** *HARDWAREX*
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- **Design and implementation of a cost-effective, open-source, and programmable pulsatile flow system.** *HardwareX*
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- **Frequent Amplification and Overexpression of PSMA in Basallike Breast Cancer from Analysis of The Cancer Genome Atlas.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
  Zhou, W., Halder, S., Herwald, S., Ghijsen, M., Shafi, G., Uttarwar, M., Rosen, E., Franc, B., Kishore, S.
  2024
- **Health for All: A Report of the 2020 Association of American Medical Colleges Learn Serve Lead Meeting.** *Journal of the American College of Radiology : JACR*
  Herwald, S. E., Farooq, A., Balthazar, P., Haines, G. R., Anzai, Y.
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- **Computed Tomography-Guided Microwave Ablation of Cystic Renal Cell Carcinoma: Assessment of Technique and Complications.** *Journal of vascular and interventional radiology : JVIR*
  Zhou, W., Herwald, S. E., Arellano, R. S.
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- **Inflammatory Pseudotumor Mimics Local Recurrence following a Microwave Ablation of Renal Cell Carcinoma.** *Journal of vascular and interventional radiology : JVIR*

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- **Impact of Body Mass Index on Perioperative Complications and Oncologic Outcomes in Patients Undergoing Thermal Ablation for Renal Cell Carcinoma.** *Journal of vascular and interventional radiology : JVIR*
  Zhou, W., Herwald, S. E., Uppot, R. N., Arellano, R. S.
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- **Thermal Ablation of Renal Cell Carcinoma in Morbidly Obese Patients: Assessment of Technical Results, Procedural Safety, and Oncological Outcomes.** *AJR. American journal of roentgenology*
  Zhou, W., Herwald, S. E., Uppot, R. N., Arellano, R. S.
  2020

- **Radiofrequency Ablation, Cryoablation, and Microwave Ablation for T1a Renal Cell Carcinoma: A Comparative Evaluation of Therapeutic and Renal Function Outcomes** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
  Zhou, W., Herwald, S. E., McCarthy, C., Uppot, R. N., Arellano, R. S.
  2019; 30 (7): 1035–42

- **Risk Assessment of Chronic Kidney Disease following Microwave Ablation for Stage T1 Renal Cell Carcinoma** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
  Zhou, W., Herwald, S. E., Uppot, R. N., Arellano, R. S.
  2018; 29 (12): 1685–91

- **Image-Guided Thermal Ablation for Non-resectable Recurrence of Renal Cell Cancer Following Nephrectomy: Clinical Experience with Eleven Patients** *CARDIOVASCULAR AND INTERVENTIONAL RADIOLOGY*
  Zhou, W., Herwald, S. E., Uppot, R. N., Arellano, R. S.
  2018; 41 (11): 1743–50

- **The two transmembrane regions of Candida albicans Dfi1 contribute to its biogenesis** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Herwald, S. E., Zucchi, P. C., Tan, S., Kumamoto, C. A.
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- **Anticipated Supply and Demand for Independent Interventional Radiology Residency Positions: A Survey of Department Chairs** *JOURNAL OF THE AMERICAN COLLEGE OF RADIOLOGY*
  Herwald, S. E., Spies, J. B., Yucel, E.
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- **Irreversible Electroporation for Treatment of Hepatocellular Carcinoma Adjacent to the Gallbladder** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
  Herwald, S. E., Chen, J. H., Arellano, R. S.
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- **The game theory of Candida albicans colonization dynamics reveals host status-responsive gene expression** *BMC SYSTEMS BIOLOGY*
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- **Candida albicans Niche Specialization: Features That Distinguish Biofilm Cells from Commensal Cells** *CURRENT FUNGAL INFECTION REPORTS*
  Herwald, S. E., Kumamoto, C. A.
  2014; 8 (2): 179–84

- **Structure and Substrate Specificity of the Pyrococcal Coenzyme A Disulfide Reductases/Polysulfide Reductases (CoADR/Psr): Implications for S-0-Based Respiration and a Sulfur-Dependent Antioxidant System in Pyrococcus** *BIOCHEMISTRY*
  Herwald, S., Liu, A. Y., Zhu, B. E., Sea, K. W., Lopez, K. M., Sazinsky, M. H., Crane, E. J.
  2013; 52 (16): 2764–73

- **Purification of high yields of catalytically active lysyl oxidase directly from Escherichia coli cell culture** *PROTEIN EXPRESSION AND PURIFICATION*
  Herwald, S. E., Greenaway, F. T., Lopez, K. M.
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