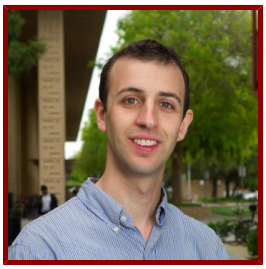
Stanford



Adam de la Zerda

Associate Professor of Structural Biology and, by courtesy, of Electrical Engineering

Bio

ACADEMIC APPOINTMENTS

- Associate Professor, Structural Biology
- Associate Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Member, Stanford Cancer Institute

LINKS

- de la Zerda Group Website: http://delazerda.stanford.edu/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Molecular imaging technologies for studying cancer biology in vivo

Teaching

COURSES

2026-27

- Biochips and Medical Imaging: EE 225, MATSCI 225, SBIO 225 (Win)

2025-26

- Biochips and Medical Imaging: EE 225, MATSCI 225, SBIO 225 (Win)

2024-25

- Biochips and Medical Imaging: EE 225, MATSCI 225, SBIO 225 (Win)

2023-24

- Biochips and Medical Imaging: EE 225, MATSCI 225 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Kaitlyn Liang

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (PhD Program)
- Structural Biology (PhD Program)

Publications

PUBLICATIONS

- **Flexible method for generating needle-shaped beams and its application in optical coherence tomography** *Optica*
  Zhao, J., Winetraub, Y., Du, L., Vleck, A. V., Ichimura, K., Huang, C., Aasi, S. Z., Sarin, K. Y., de la Zerda, A.
  2022; 9 (8): 859-867
- **Speckle-modulating optical coherence tomography in living mice and humans** *NATURE COMMUNICATIONS*
  Liba, O., Lew, M. D., SoRelle, E. D., Dutta, R., Sen, D., Moshfeghi, D. M., Chu, S., de la Zerda, A.
  2017; 8: 15845
- **Quantitative contrast-enhanced optical coherence tomography** *APPLIED PHYSICS LETTERS*
  Winetraub, Y., SoRelle, E. D., Liba, O., de la Zerda, A.
  2016; 108 (2)
- **Contrast-enhanced optical coherence tomography with picomolar sensitivity for functional in vivo imaging.** *Scientific reports*
  Liba, O., SoRelle, E. D., Sen, D., de la Zerda, A.
  2016; 6: 23337-?
- **Biofunctionalization of Large Gold Nanorods Realizes Ultrahigh-Sensitivity Optical Imaging Agents** *LANGMUIR*
  SoRelle, E. D., Liba, O., Hussain, Z., Gambhir, M., de la Zerda, A.
  2015; 31 (45): 12339-12347
- **Optical coherence contrast imaging using gold nanorods in living mice eyes** *CLINICAL AND EXPERIMENTAL OPHTHALMOLOGY*
  de la Zerda, A., Prabhulkar, S., Perez, V. L., Ruggeri, M., Paranjape, A. S., Habte, F., Gambhir, S. S., Awdeh, R. M.
  2015; 43 (4): 358-366
- **A correlative optical microscopy and scanning electron microscopy approach to locating nanoparticles in brain tumors.** *Micron*
  Kempen, P. J., Kircher, M. F., de la Zerda, A., Zavaleta, C. L., Jokerst, J. V., Mellinghoff, I. K., Gambhir, S. S., Sinclair, R.
  2015; 68: 70-76
- **Imaging the Glycosylation State of Cell Surface Glycoproteins by Two-Photon Fluorescence Lifetime Imaging Microscopy** *ANGEWANDTE CHEMIE-INTERNATIONAL EDITION*
  Belardi, B., de la Zerda, A., Spiciarich, D. R., Maund, S. L., Peehl, D. M., Bertozzi, C. R.
  2013; 52 (52): 14045-14049
- **Single step nanoplasmonic immunoassay for the measurement of protein biomarkers.** *Biosensors*
  Prabhulkar, S., de la Zerda, A., Paranjape, A., Awdeh, R. M.
  2013; 3 (1): 77-88
- **Continuous sensing of tumor-targeted molecular probes with a vertical cavity surface emitting laser-based biosensor** *JOURNAL OF BIOMEDICAL OPTICS*
  Parashurama, N., O'Sullivan, T. D., de la Zerda, A., El Kalassi, P., Cho, S., Liu, H., Teed, R., Levy, H., Rosenberg, J., Cheng, Z., Levi, O., Harris, J. S., Gambhir, et al
  2012; 17 (11)
- **Family of Enhanced Photoacoustic Imaging Agents for High-Sensitivity and Multiplexing Studies in Living Mice** *ACS NANO*
  de la Zerda, A., Bodapati, S., Teed, R., May, S. Y., Tabakman, S. M., Liu, Z., Khuri-Yakub, B. T., Chen, X., Dai, H., Gambhir, S. S.
  2012; 6 (6): 4694-4701
- **A brain tumor molecular imaging strategy using a new triple-modality MRI-photoacoustic-Raman nanoparticle** *NATURE MEDICINE*
  Kircher, M. F., de la Zerda, A., Jokerst, J. V., Zavaleta, C. L., Kempen, P. J., Mittra, E., Pitter, K., Huang, R., Campos, C., Habte, F., Sinclair, R., Brennan, C. W., Mellinghoff, et al
  2012; 18 (5): 829-U235

- **Advanced contrast nanoagents for photoacoustic molecular imaging, cytometry, blood test and photothermal theranostics** *CONTRAST MEDIA & MOLECULAR IMAGING*
  de la Zerda, A., Kim, J., Galanzha, E. I., Gambhir, S. S., Zharov, V. P.
  2011; 6 (5): 346-369
- **A Comparison Between Time Domain and Spectral Imaging Systems for Imaging Quantum Dots in Small Living Animals** *MOLECULAR IMAGING AND BIOLOGY*
  de la Zerda, A., Bodapati, S., Teed, R., Schipper, M. L., Keren, S., Smith, B. R., Ng, J. S., Gambhir, S. S.
  2010; 12 (5): 500-508
- **Ultrahigh Sensitivity Carbon Nanotube Agents for Photoacoustic Molecular Imaging in Living Mice** *NANO LETTERS*
  de la Zerda, A., Liu, Z., Bodapati, S., Teed, R., Vaithilingam, S., Khuri-Yakub, B. T., Chen, X., Dai, H., Gambhir, S. S.
  2010; 10 (6): 2168-2172
- **Photoacoustic ocular imaging** *OPTICS LETTERS*
  de la Zerda, A., Paulus, Y. M., Teed, R., Bodapati, S., Dollberg, Y., Khuri-Yakub, B. T., Blumenkranz, M. S., Moshfeghi, D. M., Gambhir, S. S.
  2010; 35 (3): 270-272
- **Three-Dimensional Photoacoustic Imaging Using a Two-Dimensional CMUT Array** *IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL*
  Vaithilingam, S., Ma, T., Furukawa, Y., Wygant, I. O., Zhuang, X., de la Zerda, A., Oralkan, O., Kamaya, A., Gambhir, S. S., Jeffrey, R. B., Khuri-Yakub, B. T.
  2009; 56 (11): 2411-2419
- **Implantable optical biosensor for in vivo molecular imaging** *Conference on Optical Fibers and Sensors for Medical Diagnostics and Treatment Applications IX*
  O'Sullivan, T. D., Munro, E., de la Zerda, A., Parashurama, N., Teed, R., Walls, Z., Levi, O., Gambhir, S. S., Harris, J. S.
  SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Noninvasive Raman spectroscopy in living mice for evaluation of tumor targeting with carbon nanotubes** *NANO LETTERS*
  Zavaleta, C., de la Zerda, A., Liu, Z., Keren, S., Cheng, Z., Schipper, M., Chen, X., Dai, H., Gambhir, S. S.
  2008; 8 (9): 2800-2805
- **Carbon nanotubes as photoacoustic molecular imaging agents in living mice** *NATURE NANOTECHNOLOGY*
  de la Zerda, A., Zavaleta, C., Keren, S., Vaithilingam, S., Bodapati, S., Liu, Z., Levi, J., Smith, B. R., Ma, T., Oralkan, O., Cheng, Z., Chen, X., Dai, et al
  2008; 3 (9): 557-562
- **Noninvasive molecular imaging of small living subjects using Raman spectroscopy** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Keren, S., Zavaleta, C., Cheng, Z., de la Zerda, A., Gheysens, O., Gambhir, S. S.
  2008; 105 (15): 5844-5849
- **Drug delivery - Keeping tabs on nanocarriers** *NATURE NANOTECHNOLOGY*
  de la Zerda, A., Gambhir, S. S.
  2007; 2 (12): 745-746
- **Formulating adaptive radiation therapy (ART) treatment planning into a closed-loop control framework** *48th Annual Meeting of the American-Society-for-Therapeutic-Radiology-and-Oncology (ASTRO)*
  de la Zerda, A., Armbruster, B., Xing, L.
  IOP PUBLISHING LTD.2007: 4137–53