Stanford

Aly Elezaby, MD PhD

Instructor, Medicine - Cardiovascular Medicine

CLINICAL OFFICE (PRIMARY)

- **Medicine**

  300 Pasteur Dr Rm JC007

  Stanford, CA 94305

  Tel (650) 725-5071 **Fax** (650) 725-8381

Bio

BIO

Dr Aly Elezaby is an advanced heart failure and transplant cardiologist at Stanford University School of Medicine and a research scientist in the lab of Dr Daria Mochly-Rosen. He attended college at the University of Arizona, where he studied molecular and cellular biology with a research focus on mechanisms of genome instability. He graduated from the MD-PhD program at Boston University, with a dissertation focus on the effects of nutrient excess on mitochondrial function and oxidative stress in the heart. He completed residency training in internal medicine and cardiovascular medicine fellowship at Stanford as part of the Translational Investigator Program. His current research focus is on the signaling pathways that modulate cardiac ischemia-reperfusion injury, with a particular focus on regulation of metabolism and mitochondrial function. His clinical focus is on the management of inherited cardiovascular disease, advanced heart failure, transplant cardiology and mechanical circulatory support.

CLINICAL FOCUS

- Cardiovascular Disease
- Advanced Heart Failure, Transplant Cardiology
- Inherited Cardiomyopathy

ACADEMIC APPOINTMENTS

- Instructor, Medicine - Cardiovascular Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION

- Board Certification, American Board of Internal Medicine , Advanced Heart Failure and Transplant Cardiology (2024)
- Board Certification: Cardiovascular Disease, American Board of Internal Medicine (2023)
- Board Certification: Adult Echocardiography, National Board of Echocardiography (2021)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2020)
- Fellowship: Stanford University Advanced Heart Failure and Transplant Fellowship (2024) CA
- Fellowship: Stanford University Cardiovascular Medicine Fellowship Program (2023) CA

- Residency: Stanford University Internal Medicine Residency (2019) CA
- Medical Education: Boston University School of Medicine (2017) MA

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cardiovascular Medicine (Fellowship Program)
- Chemical and Systems Biology (Phd Program)

Publications

PUBLICATIONS

- **Immunosuppression Drugs Exhibit Differential Effects on Endothelial Cell Function.** *bioRxiv : the preprint server for biology*
  Elezaby, A., Dexheimer, R., Wu, D., Chan, S. Y., Chen, I. Y., Sayed, N., Sallam, K.
  2024
- **Cardiac troponin I directly binds and inhibits mitochondrial ATP synthase with a noncanonical role in the post-ischemic heart.** *Nature cardiovascular research*
  Elezaby, A., Lin, A. J., Vijayan, V., Pokhrel, S., Kraemer, B. R., Bechara, L. R., Larus, I., Sun, J., Baena, V., Syed, Z. A., Murphy, E., Glancy, B., Ostberg, et al
  2024; 3 (8): 987-1002
- **Extracellular release of mitochondria induced by pre-hematopoietic stem cell transplant conditioning exacerbates GVHD.** *Blood advances*
  Vijayan, V., Yan, H., Lohmeyer, J. K., Prentiss, K. A., Patil, R. V., Barbarito, G., Lopez, I., Elezaby, A., Peterson, K., Baker, J., Ostberg, N. P., Bertaina, A., Negrin, et al
  2024
- **Extracellular Release of Damaged Mitochondria Induced By Cytotoxic Conditioning Exacerbates Graft-Versus-Host Disease**
  Vijayan, V., Yan, H., Lohmeyer, J., Prentiss, K., Patil, R., Barbarito, G., Lopez, I., Elezaby, A., Peterson, K., Baker, J., Ostberg, N., Bertaina, A., Negrin, et al
  AMER SOC HEMATOLOGY.2023
- **Immunosuppression Drug Mediated Cardiovascular Effects**
  Dexheimer, R., Thomas, D., Gaddam, S., Elezaby, A., Chen, I. Y., Wang, K., Sayed, N., Sallam, K.
  LIPPINCOTT WILLIAMS & WILKINS.2023
- **Cardiac Troponin I Directly Binds Mitochondrial Proteins And Inhibits Mitochondrial Functions**
  Elezaby, A., Lin, A. J., Vijayan, V., Pokhrel, S., Bechara, L., Ostberg, N., Queliconi, B. B., Campos, J., Ferreira, J., Haileselassie, B., Mochly-Rosen, D.
  LIPPINCOTT WILLIAMS & WILKINS.2023
- **A Selective Inhibitor of Cardiac Troponin I Phosphorylation by Delta Protein Kinase C (deltaPKC) as a Treatment for Ischemia-Reperfusion Injury.** *Pharmaceuticals (Basel, Switzerland)*
  Qvit, N., Lin, A. J., Elezaby, A., Ostberg, N. P., Campos, J. C., Ferreira, J. C., Mochly-Rosen, D.
  2022; 15 (3)
- **Cardiovascular effects of immunosuppression agents.** *Frontiers in cardiovascular medicine*
  Elezaby, A., Dexheimer, R., Sallam, K.
  2022; 9: 981838
- **Iron Deficiency as a Potential Modulator of Subclinical Deficiencies in Cardiac Performance and Exercise Capacity.** *Journal of cardiac failure*
  Elezaby, A., Parikh, V. N., Nayor, M.
  2021; 27 (7): 822-824
- **ABCB10 deletion in cardiomyocytes leads to mitochondrial dysfunction and early death**
  Chambers, J., Elezaby, A., Croteau, D., Sverdlov, A., Liesa, M., Shirihai, O., Luptak, I., Pimentel, D., Siwik, D., Colucci, W.
  ELSEVIER SCIENCE INC.2018: S22

- **Mitochondrial Reactive Oxygen Species Mediate Cardiac Structural, Functional, and Mitochondrial Consequences of Diet-Induced Metabolic Heart Disease.** *Journal of the American Heart Association*

  Sverdlov, A. L., Elezaby, A. n., Qin, F. n., Behring, J. B., Luptak, I. n., Calamaras, T. D., Siwik, D. A., Miller, E. J., Liesa, M. n., Shirihai, O. S., Pimentel, D. R., Cohen, R. A., Bachschmid, et al

  2016; 5 (1)

- **Mitochondrial remodeling in mice with cardiomyocyte-specific lipid overload.** *Journal of molecular and cellular cardiology*

  Elezaby, A. n., Sverdlov, A. L., Tu, V. H., Soni, K. n., Luptak, I. n., Qin, F. n., Liesa, M. n., Shirihai, O. S., Rimer, J. n., Schaffer, J. E., Colucci, W. S., Miller, E. J.

  2015; 79: 275–83

- **Partial Liver Kinase B1 (LKB1) Deficiency Promotes Diastolic Dysfunction, De Novo Systolic Dysfunction, Apoptosis, and Mitochondrial Dysfunction With Dietary Metabolic Challenge.** *Journal of the American Heart Association*

  Miller, E. J., Calamaras, T. n., Elezaby, A. n., Sverdlov, A. n., Qin, F. n., Luptak, I. n., Wang, K. n., Sun, X. n., Vijay, A. n., Croteau, D. n., Bachschmid, M. n., Cohen, R. A., Walsh, et al

  2015; 5 (1)

- **High fat, high sucrose diet causes cardiac mitochondrial dysfunction due in part to oxidative post-translational modification of mitochondrial complex II.** *Journal of molecular and cellular cardiology*

  Sverdlov, A. L., Elezaby, A. n., Behring, J. B., Bachschmid, M. M., Luptak, I. n., Tu, V. H., Siwik, D. A., Miller, E. J., Liesa, M. n., Shirihai, O. S., Pimentel, D. R., Cohen, R. A., Colucci, et al

  2015; 78: 165–73

- **Overexpression of Catalase Diminishes Oxidative Cysteine Modifications of Cardiac Proteins.** *PloS one*

  Yao, C. n., Behring, J. B., Shao, D. n., Sverdlov, A. L., Whelan, S. A., Elezaby, A. n., Yin, X. n., Siwik, D. A., Seta, F. n., Costello, C. E., Cohen, R. A., Matsui, R. n., Colucci, et al

  2015; 10 (12): e0144025

- **Impairment of the PPARa/PGC1a Axis Compromises Mitochondrial Biogenesis and Function in Hearts With Cardiomyocyte-Specific Fatty Acid Transport Protein 1 (FATP1) Overexpression**

  Elezaby, A., Sverdlov, A., Tu, V., Soni, K., Liesa, M., Liesa, M., Shirihai, O., Colucci, W. S., Miller, E. J.

  LIPPINCOTT WILLIAMS & WILKINS.2013

- **Cardiac-Specific Fatty Acid Transport Protein 1 (FATP1) Overexpression Causes Decreased Mitochondrial Respiration, Increased Oxidative Stress and Activation of AMPK**

  Elezaby, A., Miller, E. J., Qi, F., Liesa, M., Shirihai, O. S., Colucci, W. S.

  ELSEVIER SCIENCE INC.2012: S159

- **Fusion of nearby inverted repeats by a replication-based mechanism leads to formation of dicentric and acentric chromosomes that cause genome instability in budding yeast.** *Genes & development*

  Paek, A. L., Kaochar, S. n., Jones, H. n., Elezaby, A. n., Shanks, L. n., Weinert, T. n.

  2009; 23 (24): 2861–75