Stanford

Leonardo Aliaga

Clinical Assistant Professor, Emergency Medicine

Curriculum Vitae available Online

CLINICAL OFFICE (PRIMARY)

- **Stanford Dept of Emergency Medicine**
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Bio

BIO

Dr. Leonardo Aliaga is a Clinical Assistant Professor of Emergency Medicine at Stanford University and a medical education researcher. His scholarly focus lies in error-based learning strategies, adaptive expertise, and clinical reasoning. He is co-Principal Investigator of an AI-powered virtual patient simulator designed to accelerate diagnostic skill development through purposeful exposure to cognitive struggle and contrasting cases that sharpen pattern recognition. He has been invited to give international presentations and to lead an international symposium on error-based learning strategies. His research has been published in JAMA Network Open and focuses on designing instructional methods that harness errors as cognitive catalysts to deepen learning and develop adaptive expertise.

Dr. Aliaga is currently pursuing a Master of Health Professions Education at the University of Illinois at Chicago, where his thesis aims to establish a framework to help educators implement error-based learning strategies across diverse medical education settings. He collaborates with colleagues at UC Davis, Wake Forest University, the University of Toronto, the University of Washington, and University Hospital Basel, and is building the FERN: the Failure in Education Research Network.

Dr. Aliaga brings a unique background to his work, having trained in neurosurgery before transitioning to emergency medicine. That experience shaped how he thinks about expertise and the role of struggle in becoming a truly excellent physician. He also draws from his earlier career in fine arts and photography to shape his approach to teaching—grounded in visual clarity, storytelling, and helping learners “see” through the layers of clinical complexity. He’s known for delivering gritty, high-yield, and visually rich learning experiences that don’t steal the struggle but instead help residents turn missteps into mastery.

CLINICAL FOCUS

- Emergency Medicine
- Medical Education

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Emergency Medicine

HONORS AND AWARDS

- SAEM/RAMS Innovative Educator Award, Society of Academic Emergency Medicine (2021)
- Resident MVP Award, University of California Davis, Department of Emergency Medicine (2021)
- Bo Tomas Brofeldt, M.D. Humanitarian Award, University of California Davis, Department of Emergency Medicine (2021)
- Best Resident Research Project Award, University of California Davis, Emergency Medicine Annual Research Forum (2021)
- Chief Resident, University of California Davis, Emergency Medicine Residency Program (2020 - 2021)
- Alpha Omega Alpha Honor Society Induction, University of Chicago, Pritzker School of Medicine (2013)
- John Van Prohaska Award for outstanding career potential in teaching, research & clinical medicine, University of Chicago, Pritzker School of Medicine (2013)
- NIH Research Scholar, Howard Hughes Medical Institute (2010 - 2012)

PROFESSIONAL EDUCATION

- Fellowship, Stanford Emergency Medicine , Medical Education Scholarship (2023)
- Board Certification: Emergency Medicine, American Board of Emergency Medicine (2022)
- MHPE Candidate, University of Illinois at Chicago , Health Professions Education
- Residency: UC Davis Emergency Medicine Residency (2021) CA
- Residency, UCLA Neurosurgery Residency (2013 - 2017) CA
- Medical Education: Pritzker School of Medicine University of Chicago Registrar (2013) IL

Research & Scholarship

CLINICAL TRIALS

- Facilitating Adaptive Expertise in Learning Computed Tomography, Not Recruiting

Publications

PUBLICATIONS

- **Diagnostic radiology curriculum for emergency medicine trainees in India: comparing simulation and didactics.** *EDUCATION FOR HEALTH*
  Durgun, K., Aliaga, L., Douglass, K., Ahluwalia, T.
  2025; 38 (1): 46-56
- **Error Management Training and Adaptive Expertise in Learning Computed Tomography Interpretation: A Randomized Clinical Trial.** *JAMA network open*
  Aliaga, L., Bavolek, R. A., Cooper, B., Mariorenzi, A., Ahn, J., Kraut, A., Duong, D., Burger, C., Gisondi, M. A.
  2024; 7 (9): e2431600
- **Woman with right abdominal pain.** *Journal of the American College of Emergency Physicians open*
  Hancock-Cerutti, W., Aliaga, L.
  2023; 4 (1): e12890
- **Man With Right Flank Pain.** *Annals of emergency medicine*
  Prendergast, N., Aliaga, L.
  2022; 80 (3): 278-288
- **Rethinking Radiology: An Active Learning Curriculum for Head Computed Tomography Interpretation.** *The western journal of emergency medicine*
  Aliaga, L., Clarke, S. O.
  2022; 23 (1): 47-51
- **Partial loss of TDP-43 function causes phenotypes of amyotrophic lateral sclerosis.** *Proceedings of the National Academy of Sciences of the United States of America*

Yang, C., Wang, H., Qiao, T., Yang, B., Aliaga, L., Qiu, L., Tan, W., Salameh, J., McKenna-Yasek, D. M., Smith, T., Peng, L., Moore, M. J., Brown, et al

2014; 111 (12): E1121-9

- **Amyotrophic lateral sclerosis-related VAPB P56S mutation differentially affects the function and survival of corticospinal and spinal motor neurons.** *Human molecular genetics*

  Aliaga, L., Lai, C., Yu, J., Chub, N., Shim, H., Sun, L., Xie, C., Yang, W. J., Lin, X., O'Donovan, M. J., Cai, H.

  2013; 22 (21): 4293-305

- **Positive and negative predictors for good outcome after decompressive surgery for Chiari malformation type 1 as scored on the Chicago Chiari Outcome Scale.** *Neurological research*

  Hekman, K. E., Aliaga, L., Straus, D., Luther, A., Chen, J., Sampat, A., Frim, D.

  2012; 34 (7): 694-700

- **A novel scoring system for assessing Chiari malformation type I treatment outcomes.** *Neurosurgery*

  Aliaga, L., Hekman, K. E., Yassari, R., Straus, D., Luther, G., Chen, J., Sampat, A., Frim, D.

  2012; 70 (3): 656-64; discussion 664-5

- **α-synuclein, LRRK2 and their interplay in Parkinson's disease.** *Future neurology*

  Liu, G., Aliaga, L., Cai, H.

  2012; 7 (2): 145-153