



## Kasra Naftchi-Ardebili

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

### Bio

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#### PROFESSIONAL EDUCATION

- Bachelor of Arts, University of Chicago (2012)
- Doctor of Philosophy, Stanford University , BIOE-PHD (2025)
- Master of Science, Stanford University , BIOE-MS (2021)
- MS, University of California, San Diego , Bioengineering (2017)
- BS, The University of Chicago , Biochemistry (2012)

#### STANFORD ADVISORS

- Patrick Purdon, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **Rapid optimization of focused ultrasound for complex targeting with phased array transducers and precomputed propagation operators.** *Physics in medicine and biology*  
Hasslberger, M. V., Abraham, M. G., Naftchi-Ardebili, K., Paulus, A. H., Butts Pauly, K.  
2026
- **A deep-learning model for one-shot transcranial ultrasound simulation and phase aberration correction.** *Medical physics*  
Naftchi-Ardebili, K., Singh, K., Popelka, G. R., Pauly, K. B.  
2026; 53 (1): e70259
- **Biophysical effects and neuromodulatory dose of transcranial ultrasonic stimulation.** *Brain stimulation*  
Nandi, T., Kop, B. R., Naftchi-Ardebili, K., Stagg, C. J., Pauly, K. B., Verhagen, L.  
2025
- **Focal Volume, Acoustic Radiation Force, and Strain in Two-Transducer Regimes** *IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL*  
Naftchi-Ardebili, K., Menz, M. D., Salahshoor, H., Popelka, G. R., Baccus, S. A., Pauly, K.  
2024; 71 (10): 1199-1216
- **Rank restriction for the variational calculation of two-electron reduced density matrices of many-electron atoms and molecules** *PHYSICAL REVIEW A*  
Naftchi-Ardebili, K., Hau, N. W., Mazziotti, D. A.  
2011; 84 (5)