



Ariel Hannum

Ph.D. Student in Bioengineering, admitted Autumn 2020

Bio

HONORS AND AWARDS

- American Heart Association Predoctoral Fellowship, American Heart Association (2023)
- National Science Foundation Graduate Fellowship, National Science Foundation (2020-2023)

EDUCATION AND CERTIFICATIONS

- Master of Science, Stanford University , BIOE-MS (2022)
- Bachelors of Science, University of Delaware , Biomedical Engineering (2020)

Publications

PUBLICATIONS

- **The Effect of Voxel Volume and Voxel Shape on Cardiac Diffusion Tensor Imaging Metrics** *MAGNETIC RESONANCE IN MEDICINE*
Hannum, A. J., Cork, T. E., Setsompop, K., Ennis, D. B.
2025
- **Multi-centre Investigation of Cardiac Diffusion Tensor Imaging in Healthy Volunteers by SCMR Cardiac Diffusion Special Interest Group NETWORK (SIGNET).** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Teh, I., Moulin, K., Ferreira, P. F., Absil, J., Afzali, M., Agger, P., Akbari, B., Aletras, A. H., Aono, S., Benton, C., Bhattacharya, S., Croisille, P., De Bruecker, et al
2025: 101948
- **Motion-Compensated Multishot Pancreatic Diffusion-Weighted Imaging With Deep Learning-Based Denoising.** *Investigative radiology*
Wang, K., Middione, M. J., Loening, A. M., Syed, A. B., Hannum, A. J., Wang, X., Guidon, A., Lan, P., Ennis, D. B., Brunsing, R. L.
2025
- **Evaluating Cardiac Strains from One and Two Short-Axis Slice Models Based on DENSE and Cine MRI**
Marques, A., Jahromi, M., Wellner, L., Hannum, A. J., Liu, Z., Wu, D., Ennis, D. B., Perotti, L. E.
edited by Chabiniok, R., Zou, Q., Hussain, T., Nguyen, H. H., Zaha, V. G., Gusseva, M.
SPRINGER INTERNATIONAL PUBLISHING AG.2025: 126-136
- **Characterizing Global and Regional Cardiac Diffusion Tensor Imaging Metrics in Healthy Subjects**
Hannum, A. J., Cork, T. E., Perotti, L. E., Ennis, D. B.
edited by Chabiniok, R., Zou, Q., Hussain, T., Nguyen, H. H., Zaha, V. G., Gusseva, M.
SPRINGER INTERNATIONAL PUBLISHING AG.2025: 186-196
- **Evaluating the Effect of Post-processing Steps When Analyzing Cardiac Diffusion Tensor Data**
Cork, T. E., Hannum, A. J., Loecher, M., Perotti, L. E., Ennis, D. B.
edited by Chabiniok, R., Zou, Q., Hussain, T., Nguyen, H. H., Zaha, V. G., Gusseva, M.
SPRINGER INTERNATIONAL PUBLISHING AG.2025: 137-149

- **Automated Global and Regional Segmentation of Cardiac Diffusion Tensor Images**
Stocker, S. W., Hannum, A. J., Cork, T. E., Ennis, D. B.
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SPRINGER INTERNATIONAL PUBLISHING AG.2025: 174-185
- **Phase stabilization with motion compensated diffusion weighted imaging.** *Magnetic resonance in medicine*
Hannum, A. J., Cork, T. E., Setsompop, K., Ennis, D. B.
2024
- **An nnU-Net Model to Enhance Segmentation of Cardiac Cine DENSE-MRI Using Phase Information**
Jahromi, M., Marques, A., Ahmed, M., Liu, Z., Hannum, A. J., Ennis, D. B., Perotti, L. E., Wu, D., IEEE COMPUTER SOC
IEEE COMPUTER SOC.2024: 670-673
- **DTI-MR fingerprinting for rapid high-resolution whole-brain T1 , T2 , proton density, ADC, and fractional anisotropy mapping.** *Magnetic resonance in medicine*
Cao, X., Liao, C., Zhou, Z., Zhong, Z., Li, Z., Dai, E., Iyer, S. S., Hannum, A. J., Yurt, M., Schauman, S., Chen, Q., Wang, N., Wei, et al
2023
- **Correlated noise in brain magnetic resonance elastography** *MAGNETIC RESONANCE IN MEDICINE*
Hannum, A. J., McIlvain, G., Sowinski, D., McGarry, M. D. J., Johnson, C. L.
2022; 87 (3): 1313-1328
- **Arbitrary Point Tracking with Machine Learning to Measure Cardiac Strains in Tagged MRI.** *Functional imaging and modeling of the heart : ... International Workshop, FIMH ..., proceedings. FIMH*
Loecher, M., Hannum, A. J., Perotti, L. E., Ennis, D. B.
2021; 12738: 213-222