



Daniel Bruce Ennis

Professor of Radiology (Veterans Affairs) and, by courtesy, of Bioengineering

CONTACT INFORMATION

- **Administrative Contact**

Jaqueline "Jackie" Velasquez - Administrative Associate II

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Bio

BIO

Daniel Ennis {he/him} is a Professor in the Department of Radiology. As an MRI scientist for nearly twenty years, he has worked to develop advanced translational cardiovascular MRI methods for quantitatively assessing structure, function, flow, and remodeling in both adult and pediatric populations. He began his research career as a Ph.D. student in the Department of Biomedical Engineering at Johns Hopkins University during which time he formed an active collaboration with investigators in the Laboratory of Cardiac Energetics at the National Heart, Lung, and Blood Institute (NIH/NHLBI). Thereafter, he joined the Departments of Radiological Sciences and Cardiothoracic Surgery at Stanford University as a postdoc and began to establish an independent research program with an NIH K99/R00 award focused on "Myocardial Structure, Function, and Remodeling in Mitral Regurgitation." For ten years he led a group of clinicians and scientists at UCLA working to develop and evaluate advanced cardiovascular MRI exams as PI of several NIH funded studies. In 2018 he returned to the Department of Radiology at Stanford University as faculty in the Radiological Sciences Lab to bolster programs in cardiovascular MRI. He is also the Director of Radiology Research for the Veterans Administration Palo Alto Health Care System where he oversees a growing radiology research program.

ACADEMIC APPOINTMENTS

- Professor, Radiology
- Professor (By courtesy), Bioengineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Director of Radiology Research, Veterans Affairs Palo Alto Health Care System, (2018- present)

HONORS AND AWARDS

- Young Investigator Award (Moore Award) {Mentor}, International Society for Magnetic Resonance in Medicine (2012)
- Distinguished Reviewer Award, Magnetic Resonance in Medicine (2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019)

- Outstanding Basic Science Faculty Teaching Award, Department of Radiology, University of California, Los Angeles (2014, 2016, 2017)
- Fellow, Society for Cardiovascular Magnetic Resonance (2018)
- Gold Star Reviewer, Journal of Cardiovascular Magnetic Resonance (2018)
- Distinguished Investigator, Academy for Radiology and Biomedical Imaging Research (2020)
- Fellow, International Society for Magnetic Resonance in Medicine (2020)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair (Founder), ISMRM Research Exchange Program (2016 - 2020)
- Charter Member & Chair, NIH Imaging Technology Development (ITD) Study Section (2020 - present)
- Charter Member, NIH Imaging Technology Development (ITD) Study Section (2019 - 2020)
- Member, NIH Biomedical Imaging Technology (BMIT) A & B Study Section (2017 - 2018)
- Editorial Board, Journal of Cardiovascular Magnetic Resonance (2016 - present)
- Deputy Editor, Magnetic Resonance in Medicine (2016 - present)

PROFESSIONAL EDUCATION

- Post-Doc, Stanford University , Radiology and Cardiothoracic Surgery (2008)
- Ph.D., Johns Hopkins University , Biomedical Engineering (2004)
- B.S., University of California, San Diego , Bioengineering (1997)

LINKS

- Google Scholar Profile: <https://scholar.google.com/citations?user=wte2o4oAAAAJ&hl=en>
- NIH MyBibliography Profile: <https://www.ncbi.nlm.nih.gov/myncbi/daniel.ennis.1/bibliography/public/>
- PubMed Profile: [https://www.ncbi.nlm.nih.gov/pubmed/?term=Ennis+DB+%5Bau%5D+OR+\(Ennis+D+%5Bau%5D+AND+\(McVeigh+%5Bau%5D+OR+White+%5Bau%5D+or+Sheng+%5Bau%5D\)\)](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ennis+DB+%5Bau%5D+OR+(Ennis+D+%5Bau%5D+AND+(McVeigh+%5Bau%5D+OR+White+%5Bau%5D+or+Sheng+%5Bau%5D)))
- CMR Group's Lab Page: <http://med.stanford.edu/cmrgroup.html>
- NIH Grant Support as PI: https://projectreporter.nih.gov/Reporter_Viewsh.cfm?sl=15E0CE024B8AC6D07598B8961CAA4A01A2FFCEB861BF

Teaching

COURSES

2024-25

- MRI Sequences and Signals: BMP 229, RAD 229 (Spr)
- The Magic of Medical Imaging: RAD 21Q (Aut)

2023-24

- The Magic of Medical Imaging: RAD 21Q (Aut)

2022-23

- MRI Sequences and Signals: BMP 229, RAD 229 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Aaron Brown, Jeremiah Hess

Postdoctoral Faculty Sponsor

Carlos Castillo Passi, Chenwei Tang, Simon Thalen

Doctoral Dissertation Advisor (AC)

Tyler Cork, Ariel Hannum, Xitong Wang

Doctoral Dissertation Co-Advisor (AC)

Priya Nair, Julio Oscanoa Aida

Publications

PUBLICATIONS

- **DENSE-SIM: A modular pipeline for the evaluation of cine DENSE images with sub-voxel ground-truth strain.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Barbaroux, H., Loecher, M., Brackenier, Y., Kunze, K. P., Neji, R., Pennell, D. J., Ennis, D. B., Nielles-Vallespin, S., Scott, A. D., Young, A. A.
2025; 101866
- **Characterizing variability in passive myocardial stiffness in healthy human left ventricles using personalized MRI and finite element modeling.** *Scientific reports*
Kolawole, F. O., Wang, V. Y., Freytag, B., Loecher, M., Cork, T. E., Nash, M. P., Kuhl, E., Ennis, D. B.
2025; 15 (1): 5556
- **An axis-specific mitral annuloplasty ring eliminates mitral regurgitation allowing mitral annular motion in an ovine model.** *Communications medicine*
Zhu, Y., Imbrie-Moore, A. M., Park, M. H., Cork, T. E., Yajima, S., Wilkerson, R. J., Tran, N. A., Marin-Cuartas, M., Mullis, D. M., Baker, S. W., Tada, Y., Ueyama, T., Leipzig, et al
2025; 5 (1): 40
- **Left Ventricular Twist and Circumferential Strain from MRI Tagging Predict Early Cardiovascular Disease in Duchenne Muscular Dystrophy.** *Diagnostics (Basel, Switzerland)*
Liu, Z. Q., Magrath, P., Maforo, N. G., Loecher, M., Wu, H. H., Prosper, A., Renella, P., Halnon, N., Ennis, D. B.
2025; 15 (3)
- **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
- **Assessing the Impact of Cardiac Output and Valve Orientation on Bioprosthetic Pulmonary Valve Hemodynamics Using In Vitro 4D-Flow MRI and High-Speed Imaging.** *Cardiovascular engineering and technology*
Schiavone, N. K., Nair, P. J., Elkins, C. J., McElhinney, D. B., Ennis, D. B., Eaton, J. K., Marsden, A. L.
2024
- **MRI-Based Circumferential Strain in Boys with Early Duchenne Muscular Dystrophy Cardiomyopathy.** *Diagnostics (Basel, Switzerland)*
Liu, Z. Q., Maforo, N. G., Magrath, P., Prosper, A., Renella, P., Halnon, N., Wu, H. H., Ennis, D. B.
2024; 14 (23)
- **Cardiac diffusion-weighted and tensor imaging: a Society for Cardiovascular Magnetic Resonance (SCMR) special interest group consensus statement.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Dall'Armellina, E., Ennis, D. B., Axel, L., Croisille, P., Ferreira, P. F., Gotschy, A., Lohr, D., Moulin, K., Nguyen, C., Nielles-Vallespin, S., Romero, W., Scott, A. D., Stoeck, et al
2024; 101109
- **Phase contrast MRI with minimized background phase errors.** *Magnetic resonance in medicine*
Loecher, M., Ennis, D. B.
2024
- **Diffusion Tensor MRI of the Heart: Now Feasible on Your Neighborhood Scanner.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Sosnovik, D. E., Ennis, D. B.
2024; 101101

- **Design and implementation of a cost-effective, open-source, and programmable pulsatile flow system** *HARDWAREX*
Herwald, S. E., Sze, D. Y., Ennis, D. B., Vezeridis, A. M.
2024; 19
- **Design and implementation of a cost-effective, open-source, and programmable pulsatile flow system.** *HardwareX*
Herwald, S. E., Sze, D. Y., Ennis, D. B., Vezeridis, A. M.
2024; 19: e00561
- **SDF4CHD: Generative modeling of cardiac anatomies with congenital heart defects.** *Medical image analysis*
Kong, F., Stocker, S., Choi, P. S., Ma, M., Ennis, D. B., Marsden, A. L.
2024; 97: 103293
- **Phase stabilization with motion compensated diffusion weighted imaging.** *Magnetic resonance in medicine*
Hannum, A. J., Cork, T. E., Setsompop, K., Ennis, D. B.
2024
- **A deep learning approach for fast muscle water T2 mapping with subject specific fat T2 calibration from multi-spin-echo acquisitions.** *Scientific reports*
Barbieri, M., Hooijmans, M. T., Moulin, K., Cork, T. E., Ennis, D. B., Gold, G. E., Kogan, F., Mazzoli, V.
2024; 14 (1): 8253
- **A three-dimensional left atrial motion estimation from retrospective gated computed tomography: application in heart failure patients with atrial fibrillation** *FRONTIERS IN CARDIOVASCULAR MEDICINE*
Sillett, C., Razeghi, O., Lee, A. C., Solis Lemus, J., Roney, C., Mannina, C., de Vere, F., Ananthan, K., Ennis, D. B., Haberland, U., Xu, H., Young, A., Rinaldi, et al
2024; 11: 1359715
- **Pre-excitation gradients for eddy current nulled convex optimized diffusion encoding (Pre-ENCODE).** *Magnetic resonance in medicine*
Middione, M. J., Loecher, M., Cao, X., Setsompop, K., Ennis, D. B.
2024
- **Non-invasive Estimation of Pressure Drop Across Aortic Coarctations: Validation of 0D and 3D Computational Models with In Vivo Measurements.** *Annals of biomedical engineering*
Nair, P. J., Pfaller, M. R., Dual, S. A., McElhinney, D. B., Ennis, D. B., Marsden, A. L.
2024
- **SCMR Expert Consensus Statement for Cardiovascular Magnetic Resonance of Patients with a Cardiac Implantable Electronic Device.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Kim, D., Collins, J. D., White, J. A., Hanneman, K., Lee, D. C., Patel, A. R., Hu, P., Litt, H., Weinsaft, J. W., Davids, R., Mukai, K., Ng, M. Y., Luetkens, et al
2024: 100995
- **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
- **Hemodynamic effects of entry and exit tear size in aortic dissection evaluated with in vitro magnetic resonance imaging and fluid-structure interaction simulation.** *Scientific reports*
Zimmermann, J., Bäuml, K., Loecher, M., Cork, T. E., Marsden, A. L., Ennis, D. B., Fleischmann, D.
2023; 13 (1): 22557
- **SDF4CHD: Generative Modeling of Cardiac Anatomies with Congenital Heart Defects.** *ArXiv*
Kong, F., Stocker, S., Choi, P. S., Ma, M., Ennis, D. B., Marsden, A.
2023
- **Coil sketching for computationally efficient MR iterative reconstruction.** *Magnetic resonance in medicine*
Oscanova, J. A., Ong, F., Iyer, S. S., Li, Z., Sandino, C. M., Ozturkler, B., Ennis, D. B., Pilanci, M., Vasanawala, S. S.
2023
- **Abbreviated cardiac magnetic resonance imaging versus echocardiography for interval assessment of systolic function in Duchenne muscular dystrophy: patient satisfaction, clinical utility, and image quality.** *The international journal of cardiovascular imaging*

- Chandrasekar, H., Kaufman, B. D., Beattie, M. J., Ennis, D. B., Syed, A. B., Zucker, E. J., Maskatia, S. A.
2023
- **Non-invasive estimation of pressure drop across aortic coarctations: validation of 0D and 3D computational models with in vivo measurements.** *medRxiv : the preprint server for health sciences*
Nair, P. J., Pfaller, M. R., Dual, S. A., McElhinney, D. B., Ennis, D. B., Marsden, A. L.
2023
 - **Quinapril treatment curtails decline of global longitudinal strain and mechanical function in hypertensive rats.** *Journal of hypertension*
Wilson, A. J., Sands, G. B., Wang, V. Y., Pontre, B., Ennis, D. B., Young, A. A., LeGrice, I. J., Nash, M. P.
2023
 - **StrainNet: Improved Myocardial Strain Analysis of Cine MRI by Deep Learning from DENSE** *RADIOLOGY-CARDIOTHORACIC IMAGING*
Wang, Y., Sun, C., Ghadimi, S., Auger, D. C., Croisille, P., Viallon, M., Mangion, K., Berry, C., Haggerty, C. M., Jing, L., Fornwalt, B. K., Cao, J., Cheng, et al
2023; 5 (3)
 - **StrainNet: Improved Myocardial Strain Analysis of Cine MRI by Deep Learning from DENSE.** *Radiology. Cardiothoracic imaging*
Wang, Y., Sun, C., Ghadimi, S., Auger, D. C., Croisille, P., Viallon, M., Mangion, K., Berry, C., Haggerty, C. M., Jing, L., Fornwalt, B. K., Cao, J. J., Cheng, et al
2023; 5 (3): e220196
 - **In Vivo Cardiac Diffusion Imaging Without Motion-Compensation Leads to Unreasonably High Diffusivity.** *Journal of magnetic resonance imaging : JMIR*
Moulin, K., Stoeck, C. T., Axel, L., Broncano, J., Croisille, P., Dall'Armellina, E., Ennis, D. B., Ferreira, P. F., Gotschy, A., Miro, S., Schneider, J. E., Scott, A. D., Sosnovik, et al
2023
 - **Hemodynamic Effects of Entry and Exit Tear Size in Aortic Dissection Evaluated with In Vitro Magnetic Resonance Imaging and Fluid-Structure Interaction Simulation.** *ArXiv*
Zimmermann, J., Bäuml, K., Loecher, M., Cork, T. E., Marsden, A. L., Ennis, D. B., Fleischmann, D.
2023
 - **Validating MRI-Derived Myocardial Stiffness Estimates Using In Vitro Synthetic Heart Models.** *Annals of biomedical engineering*
Kolawole, F. O., Peirlinck, M., Cork, T. E., Levenston, M., Kuhl, E., Ennis, D. B.
2023
 - **Deep Learning-Based Reconstruction for Cardiac MRI: A Review.** *Bioengineering (Basel, Switzerland)*
Oscanova, J. A., Middione, M. J., Alkan, C., Yurt, M., Loecher, M., Vasanaawala, S. S., Ennis, D. B.
2023; 10 (3)
 - **Seeing the Unseen in Cardiac Remodeling: Cardiac Diffusion Tensor Imaging as a Structural Biomarker in STEMI.** *JACC. Cardiovascular imaging*
Ennis, D. B., Salerno, M.
2023; 16 (2): 172-174
 - **Myocardial Segmentation of Tagged Magnetic Resonance Images with Transfer Learning Using Generative Cine-To-Tagged Dataset Transformation.** *Bioengineering (Basel, Switzerland)*
Dhaene, A. P., Loecher, M., Wilson, A. J., Ennis, D. B.
2023; 10 (2)
 - **Hemodynamic Effects of Entry Versus Exit Tear Size and Tissue Stiffness in Simulations of Aortic Dissection**
Bauml, K., Zimmermann, J., Ennis, D. B., Marsden, A. L., Fleischmann, D., Tavares, J. M., Bourauel, C., Geris, L., Slot, J. V.
SPRINGER INTERNATIONAL PUBLISHING AG.2023: 143-152
 - **Multishot Diffusion-Weighted MRI of the Breasts in the Supine vs. Prone Position.** *Journal of magnetic resonance imaging : JMIR*
Moran, C. J., Middione, M. J., Mazzoli, V., McKay-Nault, J. A., Guidon, A., Waheed, U., Rosen, E. L., Poplack, S. P., Rosenberg, J., Ennis, D. B., Hargreaves, B. A., Daniel, B. L.
2022
 - **4D flow cardiovascular magnetic resonance recovery profiles following pulmonary endarterectomy in chronic thromboembolic pulmonary hypertension.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*

- Dong, M. L., Azarine, A., Haddad, F., Amsallem, M., Kim, Y., Yang, W., Fadel, E., Aubrege, L., Loecher, M., Ennis, D., Pavec, J. L., Vignon-Clementel, I., Feinstein, et al
2022; 24 (1): 59
- **Electrohydraulic Vascular Compression Device (e-VaC) with Integrated Sensing and Controls** *ADVANCED MATERIALS TECHNOLOGIES*
Pirozzi, I., Kight, A., Liang, X., Han, A., Ennis, D. B., Hiesinger, W., Dual, S. A., Cutkosky, M. R.
2022
 - **Accelerated two-dimensional phase-contrast for cardiovascular MRI using deep learning-based reconstruction with complex difference estimation.** *Magnetic resonance in medicine*
Oscanoa, J. A., Middione, M. J., Syed, A. B., Sandino, C. M., Vasanawala, S. S., Ennis, D. B.
2022
 - **Validation of the Reduced Unified Continuum Formulation Against In Vitro 4D-Flow MRI.** *Annals of biomedical engineering*
Lan, I. S., Liu, J., Yang, W., Zimmermann, J., Ennis, D. B., Marsden, A. L.
2022
 - **Framework for patient-specific simulation of hemodynamics in heart failure with counterpulsation support.** *Frontiers in cardiovascular medicine*
Arduini, M., Pham, J., Marsden, A. L., Chen, I. Y., Ennis, D. B., Dual, S. A.
2022; 9: 895291
 - **Myocardial Mesostructure and Mesofunction.** *American journal of physiology. Heart and circulatory physiology*
Wilson, A. J., Sands, G. B., LeGrice, I. J., Young, A. A., Ennis, D. B.
2022
 - **Reproducibility of global and segmental myocardial strain using cine DENSE at 3T: a multicenter cardiovascular magnetic resonance study in healthy subjects and patients with heart disease.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Auger, D. A., Ghadimi, S., Cai, X., Reagan, C. E., Sun, C., Abdi, M., Cao, J. J., Cheng, J. Y., Ngai, N., Scott, A. D., Ferreira, P. F., Oshinski, J. N., Emamifar, et al
2022; 24 (1): 23
 - **In Vivo Super-Resolution Cardiac Diffusion Tensor MRI: A Feasibility Study.** *Diagnostics (Basel, Switzerland)*
Le Bars, A., Moulin, K., Ennis, D. B., Felblinger, J., Chen, B., Odille, F.
2022; 12 (4)
 - **Validation of cardiac diffusion tensor imaging sequences: A multi-centre test-retest phantom study.** *NMR in biomedicine*
Teh, I., Romero, W., Boyle, J., Coll-Font, J., Dall'Armellina, E., Ennis, D. B., Ferreira, P. F., Kalra, P., Kolipaka, A., Kozerke, S., Lohr, D., Mongeon, F., Moulin, et al
1800: e4685
 - **Diffusion biomarkers in chronic myocardial infarction.** *Functional imaging and modeling of the heart : ... International Workshop, FIMH ..., proceedings. FIMH*
Rahman, T., Moulin, K., Ennis, D. B., Perotti, L. E.
2021; 12738: 137-147
 - **Reproducibility of Left Ventricular CINE DENSE Strain in Pediatric Subjects with Duchenne Muscular Dystrophy.** *Functional imaging and modeling of the heart : ... International Workshop, FIMH ..., proceedings. FIMH*
Liu, Z. Q., Maforo, N. G., Renella, P., Halnon, N., Wu, H. H., Ennis, D. B.
2021; 12738: 232-241
 - **Optimisation of Left Atrial Feature Tracking Using Retrospective Gated Computed Tomography Images.** *Functional imaging and modeling of the heart : ... International Workshop, FIMH ..., proceedings. FIMH*
Sillett, C., Razeghi, O., Stocchi, M., Roney, C. H., O'Brien, H., Ennis, D. B., Haberland, U., Rajani, R., Rinaldi, C. A., Niederer, S. A.
2021; 12738: 71-83
 - **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

- **Right Ventricular Function and T1-Mapping in Boys With Duchenne Muscular Dystrophy.** *Journal of magnetic resonance imaging : JMIR*
Dual, S. A., Maforo, N. G., McElhinney, D. B., Prosper, A., Wu, H. H., Maskatia, S., Renella, P., Halnon, N., Ennis, D. B.
2021
- **Fully-automated global and segmental strain analysis of DENSE cardiovascular magnetic resonance using deep learning for segmentation and phase unwrapping.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Ghadimi, S., Auger, D. A., Feng, X., Sun, C., Meyer, C. H., Bilchick, K. C., Cao, J. J., Scott, A. D., Oshinski, J. N., Ennis, D. B., Epstein, F. H.
2021; 23 (1): 20
- **Myofiber strain in healthy humans using DENSE and cDTI.** *Magnetic resonance in medicine*
Moulin, K., Croisille, P., Viallon, M., Verzhbinsky, I. A., Perotti, L. E., Ennis, D. B.
2021
- **On the impact of vessel wall stiffness on quantitative flow dynamics in a synthetic model of the thoracic aorta.** *Scientific reports*
Zimmermann, J. n., Loecher, M. n., Kolawole, F. O., Bäuml, K. n., Gifford, K. n., Dual, S. A., Levenston, M. n., Marsden, A. L., Ennis, D. B.
2021; 11 (1): 6703
- **Using synthetic data generation to train a cardiac motion tag tracking neural network.** *Medical image analysis*
Loecker, M., Perotti, L. E., Ennis, D. B.
2021; 74: 102223
- **Evaluation of Patient Positioning to Mitigate RF-induced Heating of Cardiac Implantable Electronic Devices for Pediatric MRI Exams.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
Martinez, J. A., Cork, T. E., Chubb, H., Vasanawala, S., Ennis, D. B.
2021; 2021: 5027-5030
- **A gradient optimization toolbox for general purpose time-optimal MRI gradient waveform design.** *Magnetic resonance in medicine*
Loecker, M., Middione, M. J., Ennis, D. B.
2020; 84 (6): 3234-3245
- **A gradient optimization toolbox for general purpose time-optimal MRI gradient waveform design** *MAGNETIC RESONANCE IN MEDICINE*
Loecker, M., Middione, M. J., Ennis, D. B.
2020
- **INTRA-MYOCARDIAL ALGINATE HYDROGEL INJECTION ACTS AS A LEFT VENTRICULAR MID-WALL CONSTRAINT IN SWINE.** *Acta biomaterialia*
Sack, K. L., Aliotta, E., Choy, J. S., Ennis, D. B., Davies, N., Franz, T., Kassab, G. S., Guccione, J. M.
2020
- **4D Flow MR Imaging to Improve Microwave Ablation Prediction Models: A Feasibility Study in an InVivo Porcine Liver.** *Journal of vascular and interventional radiology : JVIR*
Chiang, J., Loecher, M., Moulin, K., Meloni, M. F., Raman, S. S., McWilliams, J. P., Ennis, D. B., Lee, E. W.
2020
- **Evaluation of a Workflow to Define Low Specific Absorption Rate MRI Protocols for Patients With Active Implantable Medical Devices.** *Journal of magnetic resonance imaging : JMIR*
Martinez, J. A., Moulin, K. n., Yoo, B. n., Shi, Y. n., Kim, H. J., Villablanca, P. J., Ennis, D. B.
2020
- **Motion-Induced Signal Loss in In Vivo Cardiac Diffusion-Weighted Imaging** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
Stoeck, C. T., Scott, A. D., Ferreira, P. F., Tunnicliffe, E. M., Teh, I., Nielles-Vallespin, S., Moulin, K., Sosnovik, D. E., Viallon, M., Croisille, P., Kozerke, S., Firmin, D. N., Ennis, et al
2020; 51 (1): 319-20
- **Optimization methods for magnetic resonance imaging gradient waveform design.** *NMR in biomedicine*
Middione, M. J., Loecher, M. n., Moulin, K. n., Ennis, D. B.
2020: e4308
- **Estimating cardiomyofiber strain in vivo by solving a computational model.** *Medical image analysis*
Perotti, L. E., Verzhbinsky, I. A., Moulin, K. n., Cork, T. E., Loecher, M. n., Balzani, D. n., Ennis, D. B.

2020; 68: 101932

- **Probing cardiomyocyte mobility with multi-phase cardiac diffusion tensor MRI.** *PloS one*
Moulin, K. n., Verzhbinsky, I. A., Maforo, N. G., Perotti, L. E., Ennis, D. B.
2020; 15 (11): e0241996
- **T1-Mapping and extracellular volume estimates in pediatric subjects with Duchenne muscular dystrophy and healthy controls at 3T.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
Maforo, N. G., Magrath, P. n., Moulin, K. n., Shao, J. n., Kim, G. H., Prosper, A. n., Renella, P. n., Wu, H. H., Halnon, N. n., Ennis, D. B.
2020; 22 (1): 85
- **Real-time 3T MRI-guided cardiovascular catheterization in a porcine model using a glass-fiber epoxy-based guidewire.** *PloS one*
Li, X., Perotti, L. E., Martinez, J. A., Duarte-Vogel, S. M., Ennis, D. B., Wu, H. H.
2020; 15 (2): e0229711
- **Prostate diffusion MRI with minimal echo time using eddy current nulled convex optimized diffusion encoding.** *Journal of magnetic resonance imaging : JMRI*
Zhang, Z., Moulin, K., Aliotta, E., Shakeri, S., Afshari Mirak, S., Hosseiny, M., Raman, S., Ennis, D. B., Wu, H. H.
2019
- **It's the little things: On the complexity of planar electrode heating in MRI** *NEUROIMAGE*
Erhardt, J. B., Lottner, T., Martinez, J., Oezen, A. C., Schuettler, M., Stieglitz, T., Ennis, D. B., Bock, M.
2019; 195: 272–84
- **MRI of Patients with Cardiac Implantable Electronic Devices** *CURRENT CARDIOVASCULAR IMAGING REPORTS*
Martinez, J. A., Ennis, D. B.
2019; 12 (7)
- **MRI of Patients with Cardiac Implantable Electronic Devices.** *Current cardiovascular imaging reports*
Martinez, J. A., Ennis, D. B.
2019; 12 (7)
- **Model of Left Ventricular Contraction: Validation Criteria and Boundary Conditions.** *Functional imaging and modeling of the heart : ... International Workshop, FIMH ..., proceedings. FIMH*
Ponnaluri, A. V., Verzhbinsky, I. A., Eldredge, J. D., Garfinkel, A., Ennis, D. B., Perotti, L. E.
2019; 11504: 294–303
- **Highly accelerated, model-free diffusion tensor MRI reconstruction using neural networks** *MEDICAL PHYSICS*
Aliotta, E., Nourzadeh, H., Sanders, J., Muller, D., Ennis, D. B.
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