Stanford

David Camarillo

Associate Professor of Bioengineering and, by courtesy, of Neurosurgery and of Mechanical Engineering

CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

David B. Camarillo is Associate Professor of Bioengineering, (by courtesy) Mechanical Engineering and Neurosurgery at Stanford University. Dr. Camarillo holds a B.S.E in Mechanical and Aerospace Engineering from Princeton University, a Ph.D. in Mechanical Engineering from Stanford University and completed postdoctoral fellowships in Biophysics at the UCSF and Biodesign Innovation at Stanford. Dr. Camarillo worked in the surgical robotics industry at Intuitive Surgical and Hansen Medical, before launching his laboratory at Stanford in 2012. His current research focuses on precision human measurement for multiple clinical and physiological areas including the brain, heart, lungs, and reproductive system. Dr. Camarillo has been awarded the Hellman Fellowship, the Office of Naval Research Young Investigator Program award, among other honors including multiple best paper awards in brain injury and robotic surgery. His research has been funded by the NIH, NSF, DoD, as well as corporations and private philanthropy. His lab's research has been featured on NPR, the New York Times, The Washington Post, Science News, ESPN, and TED.com as well as other media outlets aimed at education of the public.

ACADEMIC APPOINTMENTS

- Associate Professor, Bioengineering
- Associate Professor (By courtesy), Neurosurgery
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Wu Tsai Human Performance Alliance (2021 - present)
- Member, Stanford Center for Precision Mental Health & Wellness (PMHW) (2021 - present)
- Invited Session Organizer, World Congress of Biomechanics (2018 - 2018)
- Co-Chair, NIH-NINDS Common Data Elements Working Committee on Sensors (2017 - present)
- Member, Scientific Advisory Committee for National Operating Committee on Standards in Athletic Equipment (NOCSAE) (2017 - present)
- Member, American Society of Mechanical Engineers (ASME) Bioengineering Division Diversity Committee (2017 - present)

- Organizing Committee, NIH/DoD sensors workshop at National Neurotrauma Symposium (2017 - 2017)
- Member, International Society of Biomechanics (2017 - present)
- Member, American Society of Reproductive Medicine (ASRM) (2015 - 2018)
- Member, Biomedical Engineering Society (BMES) (2014 - present)
- Invited Session Organizer, World Congress of Biomechanics (2014 - 2014)
- Member, National Neurotrauma Society (NNS) (2014 - present)
- Member, American Society of Mechanical Engineers (ASME) (2012 - present)
- Member, Program in Biodesign (2012 - present)
- Member, Institute of Electrical and Electronics Engineers (IEEE) (2005 - present)

PROFESSIONAL EDUCATION

- PhD, Stanford University , Mechanical Engineering (2008)
- MS, Stanford University , Mechanical Engineering (2003)
- BSE, Princeton , Mechanical and Aerospace Engineering (2001)

LINKS

- CamLab Website: https://camlab.stanford.edu/

Teaching

COURSES

2025-26

- Bioengineering Departmental Research Colloquium: BIOE 393 (Aut)
- The Concussion Crisis: Science, Technology, and Policy Debates in the U.S. And Spain: OSPMADRD 60M (Win)

2024-25

- Bioengineering Departmental Research Colloquium: BIOE 393 (Aut)
- Introduction to Biomechanics and Mechanobiology: BIOE 282, ME 283 (Spr)

2023-24

- Bioengineering Departmental Research Colloquium: BIOE 393 (Aut)
- Introduction to Biomechanics and Mechanobiology: BIOE 282, ME 283 (Win)
- Promoting Effective and Equitable Teaching in Bioengineering: BIOE 296 (Spr)

2022-23

- Introduction to Biomechanics and Mechanobiology: BIOE 282, ME 283 (Spr)
- Promoting Effective and Equitable Teaching in Bioengineering: BIOE 296 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Bianca Edozie

Doctoral Dissertation Advisor (AC)

Mattias Cooper, Jessica Towns

Doctoral (Program)

Gema Cabero Vidal, Rong Chi, Michelle Joyce, Megan Martin, Wally Niu, Jack Rao

Publications

PUBLICATIONS

- **Local and global effects of inertial force components producing brain strain during head impacts.** *Computers in biology and medicine*
  Zhan, X., Liu, Y., Domel, A. G., Fanton, M., Zhou, Z., Raymond, S. J., Alizadeh, H. V., Cecchi, N. J., Zeineh, M. M., Grant, G. G., Camarillo, D. B., Kleiven, S.
  2025; 198 (Pt B): 111248

- **Evaluation of brain response to head impact in youth girls' soccer using an atlas-based finite element model.** *Computer methods in biomechanics and biomedical engineering*
  Miller, L. E., Pinkerton, E. K., Zhou, K. F., Wu, L. C., Camarillo, D. B., Urban, J. E., Stitzel, J. D.
  2025: 1-11

- **Precise MRI-histology coregistration of paraffin-embedded tissue with blockface imaging.** *Imaging neuroscience (Cambridge, Mass.)*
  Wang, Y., Ho, W., Huszar, I. N., DiGiacomo, P., Taghavi, H. M., Tao, L., Choi, M., Nguyen, N., Leventis, S., Camarillo, D. B., Schlömer, P., Axer, M., Shao, et al
  2025; 3

- **Repetitive head impact exposure in collegiate wrestling practices using instrumented mouthguard technology.** *Research in sports medicine (Print)*
  Zimmerman, C., Le Flao, E., Cecchi, N. J., Towns, J. A., Sami, S., Zeineh, M., Grant, G., Camarillo, D. B.
  2025: 1-8

- **AI-based identification of head impact locations, speeds, and force based on head kinematics simulations.** *IEEE transactions on bio-medical engineering*
  Zhan, X., Liu, Y., Cecchi, N. J., Towns, J., Callan, A. A., Gevaert, O., Zeineh, M. M., Camarillo, D. B.
  2025; PP

- **Precise MRI-Histology Coregistration of Paraffin-Embedded Tissue with Blockface Imaging.** *bioRxiv : the preprint server for biology*
  Wang, Y., Ho, W., Huszar, I. N., DiGiacomo, P., Taghavi, H. M., Tao, L., Choi, M., Nguyen, N., Leventis, S., Camarillo, D. B., Schlomer, P., Axer, M., Wei, et al
  2025

- **Differences between two maximal principal strain rate calculation schemes in traumatic brain analysis with in-vivo and in-silico datasets.** *Journal of biomechanics*
  Zhan, X., Zhou, Z., Liu, Y., Cecchi, N. J., Hajiahamemar, M., Zeineh, M. M., Grant, G. A., Camarillo, D.
  2024; 179: 112456

- **AI-Based Denoising of Head Impact Kinematics Measurements With Convolutional Neural Network for Traumatic Brain Injury Prediction** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Zhan, X., Liu, Y., Cecchi, N. J., Callan, A. A., Le Flao, E., Gevaert, O., Zeineh, M. M., Grant, G. A., Camarillo, D. B.
  2024; 71 (9): 2759-2770

- **Brain Deformation Estimation With Transfer Learning for Head Impact Datasets Across Impact Types** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Zhan, X., Liu, Y., Cecchi, N. J., Gevaert, O., Zeineh, M. M., Grant, G. A., Camarillo, D. B.
  2024; 71 (6): 1853-1863

- **Development and evaluation of a usable blastocyst predictive model using the biomechanical properties of human oocytes.** *PloS one*
  Meyer, D., Kort, J., Chen, C. H., Zhao, H., Yi, X., Lai, S. Y., Lu, F., Yang, W. J., Hsieh, I. C., Chiang, C. L., Chen, W. M., Huang, J. Y., Camarillo, et al
  2024; 19 (5): e0299602

- **Adaptive Machine Learning Head Model Across Different Head Impact Types Using Unsupervised Domain Adaptation and Generative Adversarial Networks** *IEEE SENSORS JOURNAL*
  Zhan, X., Sun, J., Liu, Y., Cecchi, N. J., Le Flao, E., Gevaert, O., Zeineh, M. M., Camarillo, D. B.
  2024; 24 (5): 7097-7106

- **Adaptive Machine Learning Head Model Across Different Head Impact Types Using Unsupervised Domain Adaptation and Generative Adversarial Networks.** *IEEE sensors journal*
  Zhan, X., Sun, J., Liu, Y., Cecchi, N. J., Le Flao, E., Gevaert, O., Zeineh, M. M., Camarillo, D. B.
  2024; 24 (5): 7097-7106

- **A wearable hydraulic shock absorber with efficient energy dissipation** *INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES*
  Cecchi, N. J., Liu, Y., Vegesna, R. V., Zhan, X., Yang, W., Campomanes, L., Grant, G. A., Camarillo, D. B.
  2024; 270

- **Differences In Strain Distribution Across Brain Regions In Non-concussive Collegiate Football Head Impacts**
  Le Flao, E., Zhan, X., Cecchi, N. J., Liu, Y., Callan, A. A., Watson, L. P., Pang, C., Grant, G. A., Zeineh, M. M., Camarillo, D. B.
  LIPPINCOTT WILLIAMS & WILKINS.2023: 416

- **Microstructural Alterations in Tract Development in College Football and Volleyball Players: A Longitudinal Diffusion MRI Study.** *Neurology*
  Goubran, M., Mills, B. D., Georgiadis, M., Karimpoor, M., Mouchawar, N., Sami, S., Dennis, E. L., Akers, C., Mitchell, L., Boldt, B., Douglas, D., DiGiacomo, P. S., Rosenberg, et al
  2023

- **Longitudinal alterations of cerebral blood flow in high-contact sports.** *Annals of neurology*
  Karimpoor, M., Georgiadis, M., Zhao, M. Y., Goubran, M., Moein Taghavi, H., Mills, B. D., Tran, D., Mouchawar, N., Sami, S., Wintermark, M., Grant, G., Camarillo, D. B., Moseley, et al
  2023

- **Toward more accurate and generalizable brain deformation estimators for traumatic brain injury detection with unsupervised domain adaptation.** *ArXiv*
  Zhan, X., Sun, J., Liu, Y., Cecchi, N. J., Le Flao, E., Gevaert, O., Zeineh, M. M., Camarillo, D. B.
  2023

- **Padded Helmet Shell Covers in American Football: A Comprehensive Laboratory Evaluation with Preliminary On-Field Findings.** *Annals of biomedical engineering*
  Cecchi, N. J., Callan, A. A., Watson, L. P., Liu, Y., Zhan, X., Vegesna, R. V., Pang, C., Le Flao, E., Grant, G. A., Zeineh, M. M., Camarillo, D. B.
  2023

- **Machine-learning-based head impact subtyping based on the spectral densities of the measurable head kinematics.** *Journal of sport and health science*
  Zhan, X., Li, Y., Liu, Y., Cecchi, N. J., Raymond, S. J., Zhou, Z., Alizadeh, H. V., Ruan, J., Barbat, S., Tiernan, S., Gevaert, O., Zeineh, M. M., Grant, et al
  2023

- **Correction: Identifying Factors Associated with Head Impact Kinematics and Brain Strain in High School American Football via Instrumented Mouthguards.** *Annals of biomedical engineering*
  Cecchi, N. J., Domel, A. G., Liu, Y., Rice, E., Lu, R., Zhan, X., Zhou, Z., Raymond, S. J., Sami, S., Singh, H., Rangel, I., Watson, L. P., Kleiven, et al
  2023

- **Finite element evaluation of an American football helmet featuring liquid shock absorbers for protecting against concussive and subconcussive head impacts.** *Frontiers in bioengineering and biotechnology*
  Cecchi, N. J., Vahid Alizadeh, H., Liu, Y., Camarillo, D. B.
  2023; 11: 1160387

- **Using an Accelerated Undergraduate Needs Finding Course to Build Skills, Inspire Confidence, and Promote Interest in Health Technology Innovation.** *Biomedical engineering education*
  Denend, L., Spielman, S., Venook, R., Pamnani, R. D., Camarillo, D., Wall, J., Towles, J.
  2023; 3 (2): 319-329

- **Laboratory And On-field Testing Of A Commercially Available Padded Helmet Cover**
  Cecchi, N. J., Callan, A. A., Watson, L. P., Liu, Y., Zhan, X., Zeineh, M. M., Grant, G. A., Camarillo, D. B.
  LIPPINCOTT WILLIAMS & WILKINS.2022: 45

- **Piecewise Multivariate Linearity Between Kinematic Features and Cumulative Strain Damage Measure (CSDM) Across Different Types of Head Impacts.** *Annals of biomedical engineering*
  Zhan, X., Li, Y., Liu, Y., Cecchi, N. J., Gevaert, O., Zeineh, M. M., Grant, G. A., Camarillo, D. B.

2022

- **A REAL-TIME SYSTEM TO MONITOR BRAIN STRAIN TO DETECT DANGEROUS HEAD IMPACTS**
  Zhan, X., Liu, Y., Gevaert, O., Zeineh, M., Camarillo, D.
  MARY ANN LIEBERT, INC.2022: A22
- **Find the spatial co-variation of brain deformation with principal component analysis.** *IEEE transactions on bio-medical engineering*
  Zhan, X., Liu, Y., Cecchi, N. J., Gevaert, O., Zeineh, M., Grant, G., Camarillo, D. B.
  2022; PP
- **Physics-Informed Machine Learning Improves Detection of Head Impacts.** *Annals of biomedical engineering*
  Raymond, S. J., Cecchi, N. J., Alizadeh, H. V., Callan, A. A., Rice, E., Liu, Y., Zhou, Z., Zeineh, M., Camarillo, D. B.
  2022
- **A low-cost, highly functional, emergency use ventilator for the COVID-19 crisis.** *PloS one*
  Raymond, S. J., Baker, S., Liu, Y., Bustamante, M. J., Ley, B., Horzewski, M. J., Camarillo, D. B., Cornfield, D. N.
  2022; 17 (3): e0266173
- **Translational models of mild traumatic brain injury tissue biomechanics** *Current Opinion in Biomedical Engineering*
  Zhan, X., Oeur, A., Liu, Y., Zeineh, M. M., Grant, G. A., Margulies, S. S., Camarillo, D. B.
  2022; 24
- **The Presence of the Temporal Horn Exacerbates the Vulnerability of Hippocampus During Head Impacts.** *Frontiers in bioengineering and biotechnology*
  Zhou, Z., Li, X., Domel, A. G., Dennis, E. L., Georgiadis, M., Liu, Y., Raymond, S. J., Grant, G., Kleiven, S., Camarillo, D., Zeineh, M.
  2022; 10: 754344
- **Towards a comprehensive delineation of white matter tract-related deformation.** *Journal of neurotrauma*
  Zhou, Z., Li, X., Liu, Y., Fahlstedt, M., Georgiadis, M., Zhan, X., Raymond, S. J., Grant, G., Kleiven, S., Camarillo, D. B., Zeineh, M.
  2021
- **Identifying Factors Associated with Head Impact Kinematics and Brain Strain in High School American Football via Instrumented Mouthguards.** *Annals of biomedical engineering*
  Cecchi, N. J., Domel, A. G., Liu, Y., Rice, E., Lu, R., Zhan, X., Zhou, Z., Raymond, S. J., Sami, S., Singh, H., Rangel, I., Watson, L. P., Kleiven, et al
  2021
- **Neuroradiologic Evaluation of MRI in High-Contact Sports** *FRONTIERS IN NEUROLOGY*
  McAllister, D., Akers, C., Boldt, B., Mitchell, L. A., Tranvinh, E., Douglas, D., Goubran, M., Rosenberg, J., Georgiadis, M., Karimpoor, M., DiGiacomo, P., Mouchawar, N., Grant, et al
  2021; 12
- **Neuroradiologic Evaluation of MRI in High-Contact Sports.** *Frontiers in neurology*
  McAllister, D., Akers, C., Boldt, B., Mitchell, L. A., Tranvinh, E., Douglas, D., Goubran, M., Rosenberg, J., Georgiadis, M., Karimpoor, M., DiGiacomo, P., Mouchawar, N., Grant, et al
  2021; 12: 701948
- **Identifying Risk Factors For Head Impact Exposure In High School Football Using A Validated Instrumented Mouthguard**
  Cecchi, N. J., Domel, A. G., Liu, Y., Raymond, S. J., Zeineh, M., Camarillo, D., Grant, G.
  LIPPINCOTT WILLIAMS & WILKINS.2021: 148
- **Predictive Factors of Kinematics in Traumatic Brain Injury from Head Impacts Based on Statistical Interpretation.** *Annals of biomedical engineering*
  Zhan, X., Li, Y., Liu, Y., Domel, A. G., Alizadeh, H. V., Zhou, Z., Cecchi, N. J., Raymond, S. J., Tiernan, S., Ruan, J., Barbat, S., Gevaert, O., Zeineh, et al
  2021
- **Time Window of Head Impact Kinematics Measurement for Calculation of Brain Strain and Strain Rate in American Football.** *Annals of biomedical engineering*
  Liu, Y., Domel, A. G., Cecchi, N. J., Rice, E., Callan, A. A., Raymond, S. J., Zhou, Z., Zhan, X., Li, Y., Zeineh, M. M., Grant, G. A., Camarillo, D. B.
  2021

- **Collapsible fluid-filled fabric shock absorber with constant force** *JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES*
  Alizadeh, H., Fanton, M., Camarillo, D. B.
  2021

- **A new open-access platform for measuring and sharing mTBI data.** *Scientific reports*
  Domel, A. G., Raymond, S. J., Giordano, C., Liu, Y., Yousefsani, S. A., Fanton, M., Cecchi, N. J., Vovk, O., Pirozzi, I., Kight, A., Avery, B., Boumis, A., Fetters, et al
  2021; 11 (1): 7501

- **Correction to: Validation and Comparison of Instrumented Mouthguards for Measuring Head Kinematics and Assessing Brain Deformation in Football Impacts.** *Annals of biomedical engineering*
  Liu, Y., Domel, A. G., Yousefsani, S. A., Kondic, J., Grant, G., Zeineh, M., Camarillo, D. B.
  2021; 49 (3): 1119-1120

- **Validation and Comparison of Instrumented Mouthguards for Measuring Head Kinematics and Assessing Brain Deformation in Football Impacts (vol 48, pg 2580, 2020)** *ANNALS OF BIOMEDICAL ENGINEERING*
  Liu, Y., Domel, A. G., Yousefsani, S., Kondic, J., Grant, G., Zeineh, M., Camarillo, D. B.
  2021

- **Rapid Estimation of Entire Brain Strain Using Deep Learning Models** *IEEE Transactions on Biomedical Engineering*
  Zhan, X., Liu, Y., Raymond, S. J., Vahid Alizadeh, H., Domel, A. G., Gevaert, O., Zeineh, M. M., Grant, G. A., Camarillo, D.
  2021: 11

- **White matter tract-oriented deformation is dependent on real-time axonal fiber orientation.** *Journal of neurotrauma*
  Zhou, Z. n., Domel, A. G., Li, X. n., Grant, G. n., Kleiven, S. n., Camarillo, D. B., Zeineh, M. n.
  2021

- **The relationship between brain injury criteria and brain strain across different types of head impacts can be different** *Journal of Royal Society Interface*
  Zhan, X., Li, Y., Liu, Y., Domel, A. G., Vahid Alidazeh, H., Raymond, S. J., Ruan, J., Barbat, S., Tienan, S., Gevaert, O., Zeineh, M., Grant, G., Camarillo, et al
  2021; 18 (20210260)

- **A Computational Study of Liquid Shock Absorption for Prevention of Traumatic Brain Injury.** *Journal of biomechanical engineering*
  Vahid Alizadeh, H., Fanton, M. G., Domel, A. G., Grant, G., Camarillo, D.
  2020

- **Variable area, constant force shock absorption motivated by traumatic brain injury prevention** *SMART MATERIALS AND STRUCTURES*
  Fanton, M., Alizadeh, H., Domel, A. G., Devlin, M., Kurt, M., Mungal, M., Camarillo, D. B., Hawkes, E.
  2020; 29 (8)

- **Analysis of head acceleration events in collegiate-level American football: A combination of qualitative video analysis and in-vivo head kinematic measurement.** *Journal of biomechanics*
  Tierney, G. J., Kuo, C., Wu, L., Weaving, D., Camarillo, D.
  2020; 110: 109969

- **Characterizing head impact exposure in youth female soccer with a custom-instrumented mouthpiece** *RESEARCH IN SPORTS MEDICINE*
  Miller, L. E., Pinkerton, E. K., Fabian, K. C., Wu, L. C., Espeland, M. A., Lamond, L. C., Miles, C. M., Camarillo, D. B., Stitzel, J. D., Urban, J. E.
  2020; 28 (1): 55–71

- **Longitudinal alteration of cortical thickness and volume in high-impact sports.** *NeuroImage*
  Mills, B. D., Goubran, M. n., Parivash, S. N., Dennis, E. L., Rezaii, P. n., Akers, C. n., Bian, W. n., Mitchell, L. A., Boldt, B. n., Douglas, D. n., Sami, S. n., Mouchawar, N. n., Wilson, et al
  2020: 116864

- **MR elastography frequency-dependent and independent parameters demonstrate accelerated decrease of brain stiffness in elder subjects.** *European radiology*
  Lv, H. n., Kurt, M. n., Zeng, N. n., Ozkaya, E. n., Marcuz, F. n., Wu, L. n., Laksari, K. n., Camarillo, D. B., Pauly, K. B., Wang, Z. n., Wintermark, M. n.
  2020

- **Longitudinal alteration of cortical thickness and volume in high-impact sports.** *NeuroImage*

Mills, B. D., Goubran, M. n., Parivash, S. N., Dennis, E. L., Rezaii, P. n., Akers, C. n., Bian, W. n., Mitchell, L. A., Boldt, B. n., Douglas, D. n., Sami, S. n., Mouchawar, N. n., Wilson, et al
2020: 116864

- **Viscoelasticity of children and adolescent brains through MR elastography.** *Journal of the mechanical behavior of biomedical materials*
  Ozkaya, E. n., Fabris, G. n., Macruz, F. n., Suar, Z. M., Abderezaei, J. n., Su, B. n., Laksari, K. n., Wu, L. n., Camarillo, D. B., Pauly, K. B., Wintermark, M. n., Kurt, M. n.
  2020; 115: 104229

- **Comment on "Frequency and Magnitude of Game-Related Head Impacts in Male Contact Sports Athletes: A Systematic Review and Meta-Analysis".** *Sports medicine (Auckland, N.Z.)*
  Fanton, M., Wu, L., Camarillo, D.
  2019

- **DYSFUNCTION OF BLOOD BRAIN BARRIER IN CONCUSSIVE HEAD TRAUMA**
  Liu, Y., Tiernan, S., Campbell, M., Camarillo, D.
  MARY ANN LIEBERT, INC.2019: A97–A98

- **Optimization of a Multifrequency Magnetic Resonance Elastography Protocol for the Human Brain** *JOURNAL OF NEUROIMAGING*
  Kurt, M., Wu, L., Laksari, K., Ozkaya, E., Suar, Z. M., Lv, H., Epperson, K., Epperson, K., Sawyer, A. M., Camarillo, D., Pauly, K., Wintermark, M.
  2019; 29 (4): 440–46

- **Longitudinal Changes in Hippocampal Subfield Volume Associated with Collegiate Football** *JOURNAL OF NEUROTRAUMA*
  Parivash, S. N., Goubran, M., Mills, B. D., Rezaii, P., Thaler, C., Wolman, D., Bian, W., Mitchell, L. A., Boldt, B., Douglas, D., Wilson, E. W., Choi, J., Xie, et al
  2019

- **Lateral impacts correlate with falx cerebri displacement and corpus callosum trauma in sports-related concussions** *BIOMECHANICS AND MODELING IN MECHANOBIOLOGY*
  Hernandez, F., Giordano, C., Goubran, M., Parivash, S., Grant, G., Zeineh, M., Camarillo, D.
  2019; 18 (3): 631–49

- **Passive cervical spine ligaments provide stability during head impacts.** *Journal of the Royal Society, Interface*
  Kuo, C., Sheffels, J., Fanton, M., Yu, I. B., Hamalainen, R., Camarillo, D.
  2019; 16 (154): 20190086

- **Optimization of a Multifrequency Magnetic Resonance Elastography Protocol for the Human Brain.** *Journal of neuroimaging : official journal of the American Society of Neuroimaging*
  Kurt, M., Wu, L., Laksari, K., Ozkaya, E., Suar, Z. M., Lv, H., Epperson, K., Epperson, K., Sawyer, A. M., Camarillo, D., Pauly, K. B., Wintermark, M.
  2019

- **Dependency of Head Impact Rotation on Head-Neck Positioning and Soft Tissue Forces** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  Fanton, M., Kuo, C., Sganga, J., Hernandez, F., Camarillo, D. B.
  2019; 66 (4): 988–99

- **Characterizing head impact exposure in youth female soccer with a custom-instrumented mouthpiece.** *Research in sports medicine (Print)*
  Miller, L. E., Pinkerton, E. K., Fabian, K. C., Wu, L. C., Espeland, M. A., Lamond, L. C., Miles, C. M., Camarillo, D. B., Stitzel, J. D., Urban, J. E.
  2019: 1–17

- **Lateral impacts correlate with falx cerebri displacement and corpus callosum trauma in sports-related concussions.** *Biomechanics and modeling in mechanobiology*
  Hernandez, F., Giordano, C., Goubran, M., Parivash, S., Grant, G., Zeineh, M., Camarillo, D.
  2019

- **Multi-directional dynamic model for traumatic brain injury detection.** *Journal of neurotrauma*
  Laksari, K. n., Fanton, M. n., Wu, L. n., Nguyen, T. n., Kurt, M. n., Giordano, C. n., Kelly, E. n., O'Keeffe, E. n., Wallace, E. n., Doherty, C. n., Campbell, M. n., Tiernan, S. n., Grant, et al
  2019

- **OffsetNet: Deep Learning for Localization in the Lung using Rendered Images**

Sganga, J., Eng, D., Graetzel, C., Camarillo, D., IEEE

edited by Howard, A., Althoefer, K., Arai, F., Arrichiello, F., Caputo, B., Castellanos, J., Hauser, K., Isler, Kim, J., Liu, H., Oh, P., Santos, Scaramuzza, D., Ude, A., Voyles, R., Yamane, K., Okamura, A.

IEEE.2019: 5046–52

- **Orienting Oocytes using Vibrations for In-Vitro Fertilization Procedures**

  Meyer, D., Colon, M., Alizadeh, H., Su, L., Behr, B., Camarillo, D. B., IEEE

  edited by Howard, A., Althoefer, K., Arai, F., Arrichiello, F., Caputo, B., Castellanos, J., Hauser, K., Isler, Kim, J., Liu, H., Oh, P., Santos, Scaramuzza, D., Ude, A., Voyles, R., Yamane, K., Okamura, A.

  IEEE.2019: 4837–43

- **Vulnerable locations on the head to brain injury and implications for helmet design.** *Journal of biomechanical engineering*

  Fanton, M. G., Sganga, J. A., Camarillo, D. n.

  2019

- **Dynamic Blood-Brain Barrier Regulation in Mild Traumatic Brain Injury.** *Journal of neurotrauma*

  O'Keeffe, E. n., Kelly, E. n., Liu, Y. n., Giordano, C. n., Wallace, E. n., Hynes, M. n., Tiernan, S. n., Meagher, A. n., Greene, C. n., Hughes, S. n., Burke, T. n., Kealy, J. n., Doyle, et al

  2019

- **Longitudinal changes in hippocampal subfield volume associated with collegiate football.** *Journal of neurotrauma*

  Parivash, S. N., Goubran, M. n., Mills, B. D., Rezaii, P. n., Thaler, C. n., Wolman, D. n., Bian, W. n., Mitchell, L. A., Boldt, B. n., Douglas, D. n., Wilson, E. n., Choi, J. n., Xie, et al

  2019

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