



David Parker

Senior Research Software Engineer, Research Computing Op Budget

Publications

PUBLICATIONS

- **Digital twinning of cardiac electrophysiology for congenital heart disease.** *bioRxiv : the preprint server for biology*
Salvador, M., Kong, F., Peirlinck, M., Parker, D. W., Chubb, H., Dubin, A. M., Marsden, A. L.
2023
- **svMorph: Interactive Geometry-Editing Tools for Virtual Patient-Specific Vascular Anatomies.** *Journal of biomechanical engineering*
Pham, J., Wyetzner, S., Pfaller, M., Parker, D., James, D., Marsden, A.
2022
- **Automated generation of 0D and 1D reduced-order models of patient-specific blood flow.** *International journal for numerical methods in biomedical engineering*
Pfaller, M. R., Pham, J., Verma, A., Pegolotti, L., Wilson, N. M., Parker, D. W., Yang, W., Marsden, A. L.
2022: e3639
- **On the Periodicity of Cardiovascular Fluid Dynamics Simulations.** *Annals of biomedical engineering*
Pfaller, M. R., Pham, J., Wilson, N. M., Parker, D. W., Marsden, A. L.
2021
- **Neural Network Vessel Lumen Regression for Automated Lumen Cross-Section Segmentation in Cardiovascular Image-Based Modeling.** *Cardiovascular engineering and technology*
Maher, G. n., Parker, D. n., Wilson, N. n., Marsden, A. n.
2020
- **Integrated Image-Based Computational Fluid Dynamics Modeling Software as an Instructional Tool.** *Journal of biomechanical engineering*
Stevens Boster, K. n., Dong, M. n., Oakes, J. n., Bellini, C. n., Rayz, V. n., LaDisa, J. n., Parker, D. n., Wilson, N. n., Shadden, S. C., Marsden, A. n., Goergen, C. n.
2020
- **Engineering controllable bidirectional molecular motors based on myosin** *NATURE NANOTECHNOLOGY*
Chen, L., Nakamura, M., Schindler, T. D., Parker, D., Bryant, Z.
2012; 7 (4): 252-256
- **Coarse-Grained Structural Modeling of Molecular Motors Using Multibody Dynamics** *CELLULAR AND MOLECULAR BIOENGINEERING*
Parker, D., Bryant, Z., Delp, S. L.
2009; 2 (3): 366-374
- **Coarse-Grained Structural Modeling of Molecular Motors Using Multibody Dynamics.** *Cellular and molecular bioengineering*
Parker, D., Bryant, Z., Delp, S. L.
2009; 2 (3): 366-374
- **Morphometry-based impedance boundary conditions for patient-specific modeling of blood flow in pulmonary arteries** *ANNALS OF BIOMEDICAL ENGINEERING*
Spilker, R. L., Feinstein, J. A., Parker, D. W., Reddy, V. M., Taylor, C. A.

2007; 35 (4): 546-559

- **Extending the absorbing boundary method to fit dwell-time distributions of molecular motors with complex kinetic pathways** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Liao, J., Spudich, J. A., Parker, D., Delp, S. L.
2007; 104 (9): 3171-3176
- **Mechanobiology of mandibular distraction osteogenesis: finite element analyses with a rat model** *JOURNAL OF ORTHOPAEDIC RESEARCH*
Loboa, E. G., Fang, T. D., Parker, D. W., Warren, S. M., Fong, K. D., Longaker, M. T., Carter, D. R.
2005; 23 (3): 663-670
- **Time-resolved three-dimensional phase-contrast MRI** *10th Annual Meeting of the International-Society-for-Magnetic-Resonance-in-Medicine (ISMRM)*
Markl, M., Chan, F. P., Alley, M. T., Wedding, K. L., Draney, M. T., Elkins, C. J., Parker, D. W., Wicker, R., Taylor, C. A., Herfkens, R. J., Pelc, N. J.
JOHN WILEY & SONS INC.2003: 499-506
- **Quantification of wall shear stress in large blood vessels using lagrangian interpolation functions with cine phase-contrast magnetic resonance imaging** *ANNALS OF BIOMEDICAL ENGINEERING*
Cheng, C. P., Parker, D., Taylor, C. A.
2002; 30 (8): 1020-1032
- **In vivo quantification of blood flow and wall shear stress in the human abdominal aorta during lower limb exercise** *ANNALS OF BIOMEDICAL ENGINEERING*
Taylor, C. A., Cheng, C. P., Espinosa, L. A., Tang, B. T., Parker, D., Herfkens, R. J.
2002; 30 (3): 402-408
- **Predictive medicine: computational techniques in therapeutic decision-making.** *Computer aided surgery*
Taylor, C. A., Draney, M. T., Ku, J. P., Parker, D., Steele, B. N., Wang, K., Zarins, C. K.
1999; 4 (5): 231-247
- **Image based geometric modeling of the human vasculature in computational hemodynamics** *ASME Summer Bioengineering Meeting*
Parker, D., Wang, K., Taylor, C.
ASME.1999
- **Imaged based 3D solid model construction of human arteries for blood flow simulations**
Parker, D., Taylor, C. A., Wang, K., Chang, H. K., Zhang, Y. T.
IEEE.1998: 998-1001
- **Level set methods and MR image segmentation for geometric modeling in computational hemodynamics**
Wang, K. C., Taylor, C. A., Hsiau, Z., Parker, D., Dutton, R. W., Chang, H. K., Zhang, Y. T.
IEEE.1998: 3079-82