



## John Dabiri

Professor of Civil and Environmental Engineering, of Mechanical Engineering and Senior Fellow at the Precourt Institute for Energy

### CONTACT INFORMATION

- **Administrator**

Jack Chiueh - Administrative Associate

**Email** jchiueh@stanford.edu

**Tel** 650-736-2274

### Bio

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#### BIO

John Dabiri is Professor of Civil & Environmental Engineering and of Mechanical Engineering at Stanford University. His research focuses on science and technology at the intersection of fluid mechanics, energy and environment, and biology. Honors for this work include a MacArthur Fellowship, an Office of Naval Research Young Investigator Award, and a Presidential Early Career Award for Scientists and Engineers (PECASE). Popular Science magazine named him one of its "Brilliant 10" scientists for his research in bio-inspired propulsion. For his research in bio-inspired wind energy, Bloomberg Businessweek magazine listed him among its Technology Innovators, and MIT Technology Review magazine named him one of its 35 innovators under 35. In 2014, he was elected a Fellow of the American Physical Society, and in 2018 he won the Eugene L. Grant Award for Excellence in Teaching. He currently serves on the Editorial Boards of the Journal of Fluid Mechanics and the Journal of the Royal Society Interface.

John received his B.S.E. summa cum laude in Mechanical & Aerospace Engineering from Princeton University in 2001, his M.S. in Aeronautics from Caltech in 2003, and his Ph.D. in Bioengineering with a minor in Aeronautics from Caltech in 2005. He joined the Caltech faculty in 2005, was granted tenure in 2009, and he was promoted to full professor in 2010. During his 10 years on the Caltech faculty, he served as Chair of the Faculty Board and as the Dean of Students.

#### ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Professor, Mechanical Engineering
- Senior Fellow, Precourt Institute for Energy
- Member, Bio-X

#### HONORS AND AWARDS

- Eugene L. Grant Award for Excellence in Teaching, Stanford University (2018)
- Fellow, American Physical Society (2014)
- MacArthur Fellow, John D. and Catherine T. MacArthur Foundation (2010)
- Presidential Early Career Award for Scientists and Engineers (PECASE), Office of Science and Technology Policy (2009)

## PROFESSIONAL EDUCATION

- Ph.D., California Institute of Technology , Bioengineering with minor in Aeronautics (2005)
- M.S., California Institute of Technology , Aeronautics (2003)
- B.S.E. summa cum laude, Princeton University , Mechanical and Aerospace Engineering (2001)

## LINKS

- Dabiri Lab Website: <http://dabirilab.com>
- CV: [http://web.stanford.edu/~jodabiri/jodabiri\\_cv.pdf](http://web.stanford.edu/~jodabiri/jodabiri_cv.pdf)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Dabiri Lab conducts research at the intersection of fluid mechanics, energy and environment, and biology.

## Teaching

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### COURSES

#### 2018-19

- Mechanical Measurements: ME 149 (Spr)

#### 2017-18

- Physics of Wind Energy: CEE 261B, ENERGY 262, ME 262 (Win)

#### 2016-17

- Fluid Mechanics: ME 351A (Aut)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Ben Hightower, Jian Wei Khor, Giacomo Lamberti

#### Postdoctoral Faculty Sponsor

Matt Fu

#### Doctoral Dissertation Advisor (AC)

Jen Cardona, Nathan Wei, Nicole Xu

#### Master's Program Advisor

Sara Berg-Love, Jeremy Dahl, Latifah Hani Hamzah, Hanyuan Liu, Binita Thapa, Buis van Vlijmen

#### Doctoral Dissertation Co-Advisor (AC)

Lily Buechler, Michael Howland, Siobhan Powell

#### Doctoral (Program)

Ashley Chase

## Publications

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### PUBLICATIONS

- Alleviation of hypoxia by biologically generated mixing in a stratified water column *LIMNOLOGY AND OCEANOGRAPHY*

- 
- Houghton, I. A., Dabiri, J. O.  
2019; 64 (5): 2161–71
- **Environmental activism and vertical-axis wind turbine preferences in California** *WIND ENERGY*  
Hui, I., Cain, B. E., Dabiri, J. O.  
2019
  - **Hydrodynamics of Vortex Generation during Bell Contraction by the Hydromedusa *Eutonina indicans* (Romanes, 1876)**. *Biomimetics (Basel, Switzerland)*  
Costello, J. H., Colin, S. P., Gemmell, B. J., Dabiri, J. O.  
2019; 4 (3)
  - **Aerodynamically Interacting Vertical-Axis Wind Turbines: Performance Enhancement and Three-Dimensional Flow** *ENERGIES*  
Brownstein, I. D., Wei, N. J., Dabiri, J. O.  
2019; 12 (14)
  - **Wind Farm Modeling with Interpretable Physics-Informed Machine Learning** *ENERGIES*  
Howland, M. F., Dabiri, J. O.  
2019; 12 (14)
  - **Wind farm power optimization through wake steering**. *Proceedings of the National Academy of Sciences of the United States of America*  
Howland, M. F., Lele, S. K., Dabiri, J. O.  
2019
  - **'Work on problems you most enjoy'** *NATURE*  
Dabiri, J. O.  
2019; 567 (7747): 175
  - **Simultaneous coherent structure coloring facilitates interpretable clustering of scientific data by amplifying dissimilarity** *PLOS ONE*  
Husic, B. E., Schlueter-Kuck, K. L., Dabiri, J. O.  
2019; 14 (3)
  - **Simultaneous coherent structure coloring facilitates interpretable clustering of scientific data by amplifying dissimilarity**. *PloS one*  
Husic, B. E., Schlueter-Kuck, K. L., Dabiri, J. O.  
2019; 14 (3): e0212442
  - **Effect of swarm configuration on fluid transport during vertical collective motion**. *Bioinspiration & biomimetics*  
Martinez, M., Nawroth, J., Rallabandi, B., Dabiri, J. O.  
2019
  - **Model parameter estimation using coherent structure colouring** *JOURNAL OF FLUID MECHANICS*  
Schlueter-Kuck, K. L., Dabiri, J. O.  
2018; 861: 886–900
  - **Increasing the Power Production of Vertical-Axis Wind-Turbine Farms Using Synergistic Clustering** *BOUNDARY-LAYER METEOROLOGY*  
Hezaveh, S., Bou-Zeid, E., Dabiri, J., Kinzel, M., Cortina, G., Martinelli, L.  
2018; 169 (2): 275–96
  - **The Need for Continued Innovation in Solar, Wind, and Energy Storage** *JOULE*  
Sivaram, V., Dabiri, J. O., Hart, D. M.  
2018; 2 (9): 1639–42
  - **Single-camera three-dimensional tracking of natural particulate and zooplankton** *MEASUREMENT SCIENCE AND TECHNOLOGY*  
Troutman, V. A., Dabiri, J. O.  
2018; 29 (7)
  - **Vertically migrating swimmers generate aggregation-scale eddies in a stratified column** *NATURE*  
Houghton, I. A., Koseff, J. R., Monismith, S. G., Dabiri, J. O.  
2018; 556 (7702): 497–+
  - **Vertical-axis wind turbine experiments at full dynamic similarity** *JOURNAL OF FLUID MECHANICS*  
Miller, M. A., Duvvuri, S., Brownstein, I., Lee, M., Dabiri, J. O., Hultmark, M.

2018; 844: 707–20

- **Public receptiveness of vertical axis wind turbines** *ENERGY POLICY*  
Hui, I., Cain, B. E., Dabiri, J. O.  
2018; 112: 258–71
- **A pressure-based force and torque prediction technique for the study of fish-like swimming** *PLOS ONE*  
Lucas, K. N., Dabiri, J. O., Lauder, G. V.  
2017; 12 (12): e0189225
- **BIOMECHANICS How fish feel the flow** *NATURE*  
Dabiri, J. O.  
2017; 547 (7664): 406–7
- **Transition to bluff-body dynamics in the wake of vertical-axis wind turbines** *JOURNAL OF FLUID MECHANICS*  
Araya, D. B., Colonius, T., Dabiri, J. O.  
2017; 813: 346-381
- **Coherent structure colouring: identification of coherent structures from sparse data using graph theory** *JOURNAL OF FLUID MECHANICS*  
Schlueter-Kuck, K. L., Dabiri, J. O.  
2017; 811: 468-486
- **Motile cilia create fluid-mechanical microhabitats for the active recruitment of the host microbiome.** *Proceedings of the National Academy of Sciences of the United States of America*  
Nawroth, J. C., Guo, H., Koch, E., Heath-Heckman, E. A., Hermanson, J. C., Ruby, E. G., Dabiri, J. O., Kanso, E., McFall-Ngai, M.  
2017; 114 (36): 9510–16
- **Identification of individual coherent sets associated with flow trajectories using coherent structure coloring.** *Chaos (Woodbury, N.Y.)*  
Schlueter-Kuck, K. L., Dabiri, J. O.  
2017; 27 (9): 091101
- **Self-similarity and flow characteristics of vertical-axis wind turbine wakes: an LES study** *JOURNAL OF TURBULENCE*  
Abkar, M., Dabiri, J. O.  
2017; 18 (4): 373-389
- **Low order physical models of vertical axis wind turbines** *JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY*  
Craig, A. E., Dabiri, J. O., Koseff, J. R.  
2017; 9 (1)
- **How the bending kinematics of swimming lampreys build negative pressure fields for suction thrust** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Gemmell, B. J., Fogerson, S. M., Costello, J. H., Morgan, J. R., Dabiri, J. O., Colin, S. P.  
2016; 219 (24): 3884-3895
- **Flow Kinematics in Variable-Height Rotating Cylinder Arrays** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Craig, A. E., Dabiri, J. O., Koseff, J. R.  
2016; 138 (11)
- **Performance enhancement of downstream vertical-axis wind turbines** *JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY*  
Brownstein, I. D., Kinzel, M., Dabiri, J. O.  
2016; 8 (5)
- **A Kinematic Description of the Key Flow Characteristics in an Array of Finite-Height Rotating Cylinders** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Craig, A. E., Dabiri, J. O., Koseff, J. R.  
2016; 138 (7)
- **Pressure evolution in the shear layer of forming vortex rings** *PHYSICAL REVIEW FLUIDS*  
Schlueter-Kuck, K., Dabiri, J. O.  
2016; 1 (1)
- **Three-dimensional flow field around and downstream of a subscale model rotating vertical axis wind turbine** *EXPERIMENTS IN FLUIDS*

- 
- Ryan, K. J., Coletti, F., Elkins, C. J., Dabiri, J. O., Eaton, J. K.  
2016; 57 (3)
- **Turbulence in vertical axis wind turbine canopies** *PHYSICS OF FLUIDS*  
Kinzel, M., Araya, D. B., Dabiri, J. O.  
2015; 27 (11)
  - **Vertical axis wind turbine in a falling soap film** *PHYSICS OF FLUIDS*  
Araya, D. B., Dabiri, J. O.  
2015; 27 (9)
  - **A comparison of wake measurements in motor-driven and flow-driven turbine experiments** *EXPERIMENTS IN FLUIDS*  
Araya, D. B., Dabiri, J. O.  
2015; 56 (7)
  - **A New Approach To Wind Energy: Opportunities And Challenges** *3rd Physics of Sustainable Energy (PSE) Conference*  
Dabiri, J. O., Greer, J. R., Koseff, J. R., Moin, P., Peng, J.  
AMER INST PHYSICS.2015: 51-57
  - **Suction-based propulsion as a basis for efficient animal swimming.** *Nature communications*  
Gemmell, B. J., Colin, S. P., Costello, J. H., Dabiri, J. O.  
2015; 6: 8790-?
  - **Multi-jet propulsion organized by clonal development in a colonial siphonophore.** *Nature communications*  
Costello, J. H., Colin, S. P., Gemmell, B. J., Dabiri, J. O., Sutherland, K. R.  
2015; 6: 8158-?
  - **Low-order modeling of wind farm aerodynamics using leaky Rankine bodies** *JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY*  
Araya, D. B., Craig, A. E., Kinzel, M., Dabiri, J. O.  
2014; 6 (6)
  - **Observations of large-scale fluid transport by laser-guided plankton aggregations** *PHYSICS OF FLUIDS*  
Wilhelmus, M. M., Dabiri, J. O.  
2014; 26 (10)
  - **Emergent aerodynamics in wind farms** *PHYSICS TODAY*  
Dabiri, J. O.  
2014; 67 (10): 66-67
  - **Induced drift by a self-propelled swimmer at intermediate Reynolds numbers** *PHYSICS OF FLUIDS*  
Nawroth, J. C., Dabiri, J. O.  
2014; 26 (9)
  - **Ambient fluid motions influence swimming and feeding by the ctenophore *Mnemiopsis leidyi*** *JOURNAL OF PLANKTON RESEARCH*  
Sutherland, K. R., Costello, J. H., Colin, S. P., Dabiri, J. O.  
2014; 36 (5): 1310-1322
  - **Fluid-Structure Interaction Modeling of Vertical-Axis Wind Turbines** *JOURNAL OF APPLIED MECHANICS-TRANSACTIONS OF THE ASME*  
Bazilevs, Y., Korobenko, A., Deng, X., Yan, J., Kinzel, M., Dabiri, J. O.  
2014; 81 (8)
  - **Nested contour dynamics models for axisymmetric vortex rings and vortex wakes** *JOURNAL OF FLUID MECHANICS*  
O'Farrell, C., Dabiri, J. O.  
2014; 748: 521-548
  - **An algorithm to estimate unsteady and quasi-steady pressure fields from velocity field measurements** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Bose, S., Gemmell, B. J., Colin, S. P., Costello, J. H.  
2014; 217 (3): 331-336
  - **Pinch-off of non-axisymmetric vortex rings** *JOURNAL OF FLUID MECHANICS*  
O'Farrell, C., Dabiri, J. O.
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2014; 740: 61-96

- **Bending rules for animal propulsion** *NATURE COMMUNICATIONS*  
Lucas, K. N., Johnson, N., Beaulieu, W. T., Cathcart, E., Tirrell, G., Colin, S. P., Gemmell, B. J., Dabiri, J. O., Costello, J. H.  
2014; 5
- **THREE-DIMENSIONAL VELOCITY MEASUREMENTS AROUND AND DOWNSTREAM OF A ROTATING VERTICAL AXIS WIND TURBINE**  
Ryan, K. J., Coletti, F., Dabiri, J. O., Eaton, J. K., ASME  
AMER SOC MECHANICAL ENGINEERS.2014
- **Optimal vortex formation in a self-propelled vehicle** *JOURNAL OF FLUID MECHANICS*  
Whittlesey, R. W., Dabiri, J. O.  
2013; 737: 78-104
- **Passive energy recapture in jellyfish contributes to propulsive advantage over other metazoans** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Gemmell, B. J., Costello, J. H., Colin, S. P., Stewart, C. J., Dabiri, J. O., Tafti, D., Priya, S.  
2013; 110 (44): 17904-17909
- **Biomimetic and Live Medusae Reveal the Mechanistic Advantages of a Flexible Bell Margin** *PLOS ONE*  
Colin, S. P., Costello, J. H., Dabiri, J. O., Villanueva, A., Blottman, J. B., Gemmell, B. J., Priya, S.  
2012; 7 (11)
- **Perturbation response and pinch-off of vortex rings and dipoles** *JOURNAL OF FLUID MECHANICS*  
O'Farrell, C., Dabiri, J. O.  
2012; 704: 280-300
- **A tissue-engineered jellyfish with biomimetic propulsion** *NATURE BIOTECHNOLOGY*  
Nawroth, J. C., Lee, H., Feinberg, A. W., Ripplinger, C. M., McCain, M. L., Grosberg, A., Dabiri, J. O., Parker, K. K.  
2012; 30 (8): 792-797
- **Energy exchange in an array of vertical-axis wind turbines** *JOURNAL OF TURBULENCE*  
Kinzel, M., Mulligan, Q., Dabiri, J. O.  
2012; 13 (38): 1-13
- **Quantitatively Measuring In situ Flows using a Self-Contained Underwater Velocimetry Apparatus (SCUVA)** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*  
Katija, K., Colin, S. P., Costello, J. H., Dabiri, J. O.  
2011
- **Potential order-of-magnitude enhancement of wind farm power density via counter-rotating vertical-axis wind turbine arrays** *JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY*  
Dabiri, J. O.  
2011; 3 (4)
- **Vortex-enhanced propulsion** *JOURNAL OF FLUID MECHANICS*  
Ruiz, L. A., Whittlesey, R. W., Dabiri, J. O.  
2011; 668: 5-32
- **Quantification of flows generated by the hydromedusa *Aequorea victoria*: a Lagrangian coherent structure analysis** *MARINE ECOLOGY PROGRESS SERIES*  
Katija, K., Beaulieu, W. T., Regula, C., Colin, S. P., Costello, J. H., Dabiri, J. O.  
2011; 435: 111-123
- **Simultaneous field measurements of ostracod swimming behavior and background flow** *Limnology and Oceanography: Fluids and Environment*  
Sutherland, K. R., Dabiri, J. O., Koehl, M. A.  
2011; 1: 135-146
- **Quantitatively measuring in situ flows using a self-contained underwater velocimetry apparatus (SCUVA).** *Journal of visualized experiments : JoVE*  
Katija, K., Colin, S. P., Costello, J. H., Dabiri, J. O.  
2011: e2615-?

- **Stealth predation and the predatory success of the invasive ctenophore *Mnemiopsis leidyi*** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Colin, S. P., Costello, J. H., Hansson, L. J., Titelman, J., Dabiri, J. O.  
2010; 107 (40): 17223-17227
- **Fish schooling as a basis for vertical axis wind turbine farm design** *BIOINSPIRATION & BIOMIMETICS*  
Whittlesey, R. W., Liska, S., Dabiri, J. O.  
2010; 5 (3)
- **Ecosystem Engineers in the Pelagic Realm: Alteration of Habitat by Species Ranging from Microbes to Jellyfish** *INTEGRATIVE AND COMPARATIVE BIOLOGY*  
Breitburg, D. L., Crump, B. C., Dabiri, J. O., Gallegos, C. L.  
2010; 50 (2): 188-200
- **Phenotypic plasticity in juvenile jellyfish medusae facilitates effective animal-fluid interaction** *BIOLOGY LETTERS*  
Nawroth, J. C., Feitl, K. E., Colin, S. P., Costello, J. H., Dabiri, J. O.  
2010; 6 (3): 389-393
- **Role of vertical migration in biogenic ocean mixing** *GEOPHYSICAL RESEARCH LETTERS*  
Dabiri, J. O.  
2010; 37
- **A wake-based correlate of swimming performance and foraging behavior in seven co-occurring jellyfish species** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Colin, S. P., Katija, K., Costello, J. H.  
2010; 213 (8): 1217-1225
- **A Lagrangian approach to identifying vortex pinch-off** *CHAOS*  
O'Farrell, C., Dabiri, J. O.  
2010; 20 (1)
- **Functional Morphology and Fluid Interactions During Early Development of the Scyphomedusa *Aurelia aurita*** *BIOLOGICAL BULLETIN*  
Feitl, K. E., Millett, A. F., Colin, S. P., Dabiri, J. O., Costello, J. H.  
2009; 217 (3): 283-291
- **Circulation Generation and Vortex Ring Formation by Conic Nozzles** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Rosenfeld, M., Katija, K., Dabiri, J. O.  
2009; 131 (9)
- **A viscosity-enhanced mechanism for biogenic ocean mixing** *NATURE*  
Katija, K., Dabiri, J. O.  
2009; 460 (7255): 624-U87
- **Lagrangian coherent structures in low Reynolds number swimming** *JOURNAL OF PHYSICS-CONDENSED MATTER*  
Wilson, M. M., Peng, J., Dabiri, J. O., Eldredge, J. D.  
2009; 21 (20)
- **Transport of inertial particles by Lagrangian coherent structures: application to predator-prey interaction in jellyfish feeding** *JOURNAL OF FLUID MECHANICS*  
Peng, J., Dabiri, J. O.  
2009; 623: 75-84
- **Optimal Vortex Formation as a Unifying Principle in Biological Propulsion** *ANNUAL REVIEW OF FLUID MECHANICS*  
Dabiri, J. O.  
2009; 41: 17-33
- **The 'upstream wake' of swimming and flying animals and its correlation with propulsive efficiency** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Peng, J., Dabiri, J. O.  
2008; 211 (16): 2669-2677
- **In situ field measurements of aquatic animal-fluid interactions using a Self-Contained Underwater Velocimetry Apparatus (SCUVA)** *LIMNOLOGY AND OCEANOGRAPHY-METHODS*

- 
- Katija, K., Dabiri, J. O.  
2008; 6: 162-171
- **An overview of a Lagrangian method for analysis of animal wake dynamics** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Peng, J., Dabiri, J. O.  
2008; 211 (2): 280-287
  - **Medusan morphospace: phylogenetic constraints, biomechanical solutions, and ecological consequences** *INVERTEBRATE BIOLOGY*  
Costello, J. H., Colin, S. P., Dabiri, J. O.  
2008; 127 (3): 265-290
  - **Transport and stirring induced by vortex formation** *JOURNAL OF FLUID MECHANICS*  
Shadden, S. C., Katija, K., Rosenfeld, M., Marsden, J. E., Dabiri, J. O.  
2007; 593: 315-331
  - **A potential-flow, deformable-body model for fluid-structure interactions with compact vorticity: application to animal swimming measurements** *EXPERIMENTS IN FLUIDS*  
Peng, J., Dabiri, J. O.  
2007; 43 (5): 655-664
  - **Geometry of unsteady fluid transport during fluid-structure interactions** *JOURNAL OF FLUID MECHANICS*  
Franco, E., Pekarek, D. N., Peng, J., Dabiri, J. O.  
2007; 589: 125-145
  - **Renewable fluid dynamic energy derived from aquatic animal locomotion** *BIOINSPIRATION & BIOMIMETICS*  
Dabiri, J. O.  
2007; 2 (3): L1-L3
  - **Morphological diversity of medusan lineages constrained by animal-fluid interactions** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Colin, S. P., Costello, J. H.  
2007; 210 (11): 1868-1873
  - **Non-invasive measurement of instantaneous forces during aquatic locomotion: a case study of the bluegill sunfish pectoral fin** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Peng, J., Dabiri, J. O., Madden, P. G., Lauder, G. V.  
2007; 210 (4): 685-698
  - **The formation number of vortex rings formed in uniform background co-flow** *JOURNAL OF FLUID MECHANICS*  
Krueger, P. S., Dabiri, J. O., Gharib, M.  
2006; 556: 147-166
  - **Fast-swimming hydromedusae exploit velar kinematics to form an optimal vortex wake** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Colin, S. P., Costello, J. H.  
2006; 209 (11): 2025-2033
  - **Optimal vortex formation as an index of cardiac health** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Gharib, M., Rambod, E., Kheradvar, A., Sahn, D. J., Dabiri, J. O.  
2006; 103 (16): 6305-6308
  - **Lagrangian analysis of fluid transport in empirical vortex ring flows** *PHYSICS OF FLUIDS*  
Shadden, S. C., Dabiri, J. O., Marsden, J. E.  
2006; 18 (4)
  - **Effect of time-dependent piston velocity program on vortex ring formation in a piston/cylinder arrangement** *PHYSICS OF FLUIDS*  
Shusser, M., Rosenfeld, M., Dabiri, J. O., Gharib, M.  
2006; 18 (3)
  - **Note on the induced Lagrangian drift and added-mass of a vortex** *JOURNAL OF FLUID MECHANICS*  
Dabiri, J. O.  
2006; 547: 105-113



- **Starting flow through nozzles with temporally variable exit diameter** *JOURNAL OF FLUID MECHANICS*  
Dabiri, J. O., Gharib, M.  
2005; 538: 111-136
- **On the estimation of swimming and flying forces from wake measurements** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O.  
2005; 208 (18): 3519-3532
- **Vortex motion in the ocean: In situ visualization of jellyfish swimming and feeding flows** *22nd Annual Gallery of Fluid Motion Meeting*  
Dabiri, J. O., Gharib, M., Colin, S. P., Costello, J. H.  
AMER INST PHYSICS.2005
- **The role of optimal vortex formation in biological fluid transport** *PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*  
Dabiri, J. O., Gharib, M.  
2005; 272 (1572): 1557-1560
- **Flow patterns generated by oblate medusan jellyfish: field measurements and laboratory analyses** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Colin, S. P., Costello, J. H., Gharib, M.  
2005; 208 (7): 1257-1265
- **A revised slug model boundary layer correction for starting jet vorticity flux** *THEORETICAL AND COMPUTATIONAL FLUID DYNAMICS*  
Dabiri, J. O., Gharib, M.  
2004; 17 (4): 293-295
- **Fluid entrainment by isolated vortex rings** *JOURNAL OF FLUID MECHANICS*  
Dabiri, J. O., Gharib, M.  
2004; 511: 311-331
- **Delay of vortex ring pinchoff by an imposed bulk counterflow** *PHYSICS OF FLUIDS*  
Dabiri, J. O., Gharib, M.  
2004; 16 (4): L28-L30
- **Sensitivity analysis of kinematic approximations in dynamic medusan swimming models** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Dabiri, J. O., Gharib, M.  
2003; 206 (20): 3675-3680
- **Vortex ring pinchoff in the presence of simultaneously initiated uniform background co-flow** *PHYSICS OF FLUIDS*  
Krueger, P. S., Dabiri, J. O., Gharib, M.  
2003; 15 (7): L49-L52
- **Toward empirical evaluation of left ventricle function: A novel mathematical mapping** *24th Annual International Conference of the Engineering-in-Medicine-and-Biology-Society/Annual Fall Meeting of the Biomedical-Engineering-Society (EMBS 2002 BMES)*  
Dabiri, J. O., Gharib, M.  
IEEE.2002: 1270-1271