

James E. Moore Jr., Ph.D.

The Bagrit and Royal Academy of Engineering Chair in Medical Device Design

Department of Bioengineering
Imperial College London
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Education

Doctor of Philosophy, Mechanical Engineering, Georgia Institute of Technology, Atlanta, Georgia, March 1991

Specialty Areas: Bioengineering/Fluid Dynamics

Also earned Acoustical Engineer certificate

Thesis: *Magnetic Resonance Imaging Measurements of Pulsatile Hemodynamics in a Model of the Human Abdominal Aorta*

Advisor: David N. Ku, M.D., Ph.D.

Master of Science in Mechanical Engineering, Georgia Institute of Technology, September 1988

Thesis: *Steady and Pulsatile Flow Visualization in the Abdominal Aorta*

Bachelor of Mechanical Engineering, Cooperative Plan, Highest Honor, Georgia Institute of Technology, September 1987

Work Experience

The Bagrit and Royal Academy of Engineering Chair in Medical Device Design

Royal Society-Wolfson Research Merit Award Holder

Department of Bioengineering

Imperial College London

January 2013 - present

Carolyn S. and Tommie E. Lohman '59 Professor

Texas A&M University

Biomedical Engineering Department, July 2003 – December 2012

Appointment as Lohman Professor effective November 2010

Appointment as Associate Professor, July 2003 – September 2005

Graduate Program Director

Investigator, Cardiovascular Research Institute

Fellow, Michael E. DeBakey Institute for Comparative Cardiovascular Science and Biomedical Devices

Associate Professor

Florida International University

Biomedical Engineering Institute

Director, Cardiovascular Engineering Center, March 2001 - July 2003

Department of Mechanical Engineering, August 1994 - July 2003

(Appointment as Assistant Professor from August 1994 - August 1997)

Responsibilities: *Teach graduate and undergraduate Mechanical Engineering courses (Fluid Mechanics, Dynamics, PDE Solution Methods, Bioengineering, Heat Transfer etc.). Supervise research.*

Visiting Professor

Ecole Supérieure d'Ingénieurs de Luminy, Marseille, France
Department of Biomedical Engineering, May – June 2008

Adjunct Associate Professor

Wake Forest University School of Medicine
Department of Radiologic Sciences, 1999 - 2000

Senior Research Assistant

Swiss Federal Institute of Technology at Lausanne
Biomedical Engineering Laboratory, March 1991 - August 1994
Responsibilities: *Grant proposal writing. Teach senior level Biomedical Engineering courses in French. Supervise Bioengineering research.*

Woodruff School Doctoral Teaching Fellow, Graduate Teaching and Research Assistant, United Technologies Undergraduate Teaching Intern

Georgia Institute of Technology, Atlanta, Georgia
School of Mechanical Engineering, September 1986 - September 1990

Professional Society Memberships

American Society of Mechanical Engineers (ASME)
Biomedical Engineering Society (BMES)
UK Bioengineering Society
UK Institute for Physics and Engineering in Medicine
UK Institution of Mechanical Engineers (IMECHE)

Professional Honors

IMECHE Fellow, 2018
2016 BMES Cardiovascular Engineering and Technology Most Cited Article Award (covering period 2010-2016) for the publication: Moore, J.E. Jr., Soares, J.S., Rajagopal, K., Biodegradable Stents: Biomechanical Modeling Challenges and Opportunities, *Cardiovascular Engineering and Technology*, 1 (1), 52-65, 2010.
Richard Skalak Best Paper Award for the publication: Richardson, W.J., Metz, R.P., Moreno, M.R., Wilson, E., Moore, J.E. Jr., *A Device to Study the Effects of Stretch Gradients on Cell Behavior*, *ASME Journal of Biomechanical Engineering*, 133 (10), 2011. (Awarded in June 2012)
Texas A&M University College of Engineering Charles Crawford Distinguished Service Award, 2012
ASME Distinguished Service Award, 2010
ASME Fellow, 2008
TEES Faculty Fellow, October 2006 (Texas A&M University System)
American Institute for Medical and Biological Engineering (AIMBE) Fellow, 2006
2006 Dorothy & Ray Galvin '53 Faculty Fellow (Texas A&M College of Engineering)
2005 Dorothy & Ray Galvin '53 Faculty Fellow (Texas A&M College of Engineering)
1998 Florida International University Foundation *Excellence in Research* Award
Numerous national and international honors for graduate work

Invited Seminars and Lectures

St. Gallen Canton Hospital, Switzerland; The Hubrecht Institute, Utrecht; The Ohio State University; Cincinnati Children's Hospital; Stanford University; University of Insubria Italy; Research Complex at Harwell UK; Royal College of Art; University of Southampton, King's College London, Columbia University; Imperial College London; Queen Mary University of London (bioengineering seminar, and lecture to student entrepreneurship group); Oxford University; ASME Northwest Houston Sub-Section; University of Houston; University of Missouri; Ecole Supérieure d'Ingénieurs de Luminy, France; University of Texas Health Sciences Center at San Antonio; The Academy of Medicine, Engineering and Science of Texas; National University of Ireland – Galway; W.L. Gore and Associates; Texas A&M President's Advisory Council; Abbott Corporation; Ecole Supérieure d'Informatique, Electronique, Automatique (Paris); Rensselaer Polytechnic Institute; Erasmus Medical Center; Tohoku University; Scott and White Clinic; Medtronic Inc. (2002 and 2005); Datascope Inc.; University of Pittsburgh; BioFlorida Industry Group; University of Louisville; Texas A&M; Syntheon LLC; Virginia Tech; Miami Dade Community College; South Florida Societies of Vascular/Interventional Radiology and Vascular Surgery; Miami Cardiac and Vascular Institute; University of Illinois; Harvard Medical School (MGH); MIT; Nitinol Devices and Components (2000, 2004, 2006); University of California at Davis; Guidant Corporation; Cordis Corporation; University of Florida; La Timone Hospital, Marseille, France; University of Toronto; Cropper High School, Miami; North Miami Beach High School; Swiss Institute of Technology Lausanne; Schneider Inc.; University of Miami (1995 and 1999); Tulane University; University of Memphis; Duke University (1993 and 2001); Georgia Institute of Technology; University of Alabama at Birmingham

Notable Conference Participation

Invited to participate in the 5th Japan-USA-China-Singapore Conference on Biomechanics, Sendai, Japan, August 1998
Invited speaker at symposium on professional development, BMES Annual Fall Meeting, October 2002
Invited Panel Discussion on Globalization for ASME Congress of Councils, November 2002
Invited speaker at 15th International Symposium on Endovascular Therapy, Miami Beach, January 2003.
Invited speaker at symposium to honor Prof. Colin Caro, 2003.
Invited keynote lecturer, Japanese Society of Mechanical Engineers 16th Annual Bioengineering Division Conference, January 2004
Invited plenary lecturer, opening memorial ceremony of Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, Japan, 2004.
Advisory Board, Invited Speaker and Educational Theme Leader, International Bio-Fluid Symposium and Workshop, California Institute of Technology, December 2003
Invited keynote speaker, Southeastern Meeting of the American Society of Biomechanics, Birmingham, April 2008
Invited keynote speaker, Imperial College Surgical Society Innovation Conference, January 2015
Invited speaker, 21st European Symposium on Ultrasound Contrast Imaging, Rotterdam, January 2016
Invited keynote speaker, 5th International Conference on Computational & Mathematical Biomedical Engineering, Pittsburgh, April 2017

Oxford University BioEngenuity Keynote Lecture, May 2017
Invited Keynote Speaker, European Society for Biomaterials Conference, Athens, September 2017
Invited participant at Google Healthcare Workshop, Sunnyvale CA, November 2018
Invited speaker, 2nd Cheeloo Conference on Computational Medicine and Big Data, Jinan, November 2018

Professional Service, External

External Advisory Committee to Israeli Council for Higher Education, evaluating biomedical engineering programs (2016)
UK National Institute for Health Research i4i Review Panel (2019-)
UK Medical Research Council (MRC), Developmental Pathway Funding Scheme Review Panel (2015 – 2019)
Ad-hoc member, MRC Major Awards Committee
Ad-hoc member, MRC Clinical Research Training Fellowship Committee
Chair, 2016 UK MedEnterprise Training Network Symposium, London (supported by £55k funding from EPSRC Technology Touching Life Programme). 60+ Attendees from 10 UK universities, Crick Institute, startup companies, incubators, and government organisations.
Chair, 2015 BME-IDEA EU Symposium, London (supported by £9k funding provided by industry partners). 45+ attendees from 15 universities and 9 companies from Europe and the middle east.
Founder and Creator of www.biofluidseducation.org
Editorial Board, EBioMedicine (2017-)
Editorial Board, Journal of Endovascular Therapy (2007-2017)
Editorial Board, BMES Cardiovascular Engineering and Technology (2013-2016)
Co-Edited a special issue on Vascular Access in 2017
Associate Technical Editor, ASME Journal of Medical Devices (2006-2012)
Associate Technical Editor, ASME Journal of Biomechanical Engineering (1999-2004)
Editorial Board, International Journal of Cardiovasc. Medicine & Science (2001)
Guest Editor, PLoS Computational Biology (2016)
Co-Chair, 2005 US National Committee on Biomechanics (USNCB) Frontiers in Biomechanics Symposium, Vail, Colorado
Invited attendee, 2007 USNCB Biomechanics Summit, Keystone, CO
External Examiner, Biomedical Engineering Department, National University of Ireland, Galway (2013-2017)
External Member of Faculty Search Committee, University College Dublin, 2014
ASME: Chair, Bioengineering Division Skalak Award Committee (2013 – 2015)
Chair, Bioengineering Division Woo Award Committee (2016 - 2018)
Biomedical Device Advisory Board (2010 – present)
Nanoengineering Council (2009 – present)
Basic Engineering Group Operating Board (2008 – 2010)
Chair, Bioengineering Division (2007-2008)
Chair, 2007 Summer Bioengineering Conference (670 attendees, \$250k budget)
Exhibits Chair, 2005 Summer Bioengineering Conference
Bioengineering Division Executive Committee (2003-2009)
Delegate to the AIMBE Council of Societies
Board of Governors Young Engineer's Task Force (2002-2003)
Board of Governors Task Force on Strategic Marketing (2003)

NIH-Bioengineering Task Force, Intercouncil Committee on Federal
 Research and Development Funding
 Chair, Bioeng. Div. Fluid Mechanics Committee (1998 - 2001)
 Board of Governors Futures Team (1999-2000)
 Founder and Past Chairman, Swiss International Chapter
 Committee on International Member Services
 Region XIII Vice President Candidate Task force
 BMES: Education and Public Affairs Committee
 International Committee
 Chair of Cardiovascular Track, 2012 Fall Meeting
 American Heart Association, Florida/Puerto Rico Affiliate: Research Committee
 American Heart Association, Western States Affiliate: Proposal Review Committee
 American Heart Association, Chair, Bioengineering & Biotechnology Study Group
 (2009)
 Manuscript/Proposal Reviewer:
 Science Advances; IEEE Sensors Letters; Scientific Reports; Microvascular
 Research; Computers in Biology and Medicine; Colloids and Surfaces B:
 Biointerfaces; PLoS Computational Biology; Lymphatic Research and Biology;
 American Journal of Physiology - Regulatory, Integrative and Comparative
 Physiology; Journal of Applied Physiology; PLoS One; Catheterization and
 Cardiovascular Interventions; Journal of Vascular Surgery; Micromachines;
 Journal of NeuroInterventional Surgery; Journal of the Royal Society Interface;
 International Journal of Structural Changes in Solids; Cardiovascular Engineering
 and Technology; IEEE Transactions on Biomedical Engineering; Engineering
 Computations; Biomechanics and Modeling in Mechanobiology; Computer
 Methods in Applied Mechanics and Engineering; Thrombosis and Hemostasis;
 ASAIO Journal; Whitaker Foundation; Journal of Fluid Mechanics; Circulation
 Research; Journal of Biomech. Eng.; Journal of Biomechanics; Biorheology;
 Arteriosclerosis, Thrombosis and Vascular Biology; Annals of Biomedical
 Engineering; American Journal of Physiology; Journal of Endovascular Therapy;
 Computer Methods in Biomech. and Biomed. Eng.; Med. & Biol. Eng. &
 Computing; Journal of Theoretical Biology; Canadian Medical Research Council;
 Swiss Nat. Sci. Found.; American Heart Association; UK EPSRC; Wellcome Trust;
 Research Foundation - Flanders (Belgium); USA NIH; USA NSF; The Leverhulme
 Trust, UK MRC.
 Session Chairman/Symposium Organizer at the following conferences:
 1992 IEEE-EMBS; 1994, 1995, 1996, 1997, 1998, 2000, 2001 ASME IMECE; 1995,
 1999, 2001, 2003 ASME Summer Bioengineering Conference; 1995, 2000, 2012
 BMES Fall Meeting; 1997 World Congress on Medical Physics & Biomedical
 Engineering; 1998, 2002, 2006, 2010, 2014, 2018 World Congress on Biomechanics;
 1999 Euromech 389; 2000 Global Endovascular Therapy; 2001 Global
 Endovascular Therapy; 2002 4th International Congress on Pathophysiology; 2003
 World Congress on Medical Physics and Biomedical Engineering; 2005 US
 National Committee on Biomechanics Frontiers in Biomechanics Symposium;
 2015 Summer Biomechanics, Bioengineering and Biotransport Conference.
 International Organizing Committee, Sixth International School on Biomechanics,
 Blagoevgrad, Bulgaria, 1995
 Scientific Committee, Symposium on Endocoronary Biomechanics and Restenosis,
 Marseille, France, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2010.

Departmental and Committee Service at FIU

Faculty Mentor for the NIH-funded Minority Biomedical Research Support (MBRS) program; Biomedical and Mechanical Engineering Seminar Series organizer; ME Grad. Program Coordinator; Chem. Eng. Program Feasibility and Planning; Cardiovascular Eng. Ctr. and Biomed. Eng. Inst. Establishment Committees (awarded a **Whitaker Foundation Special Opportunity Award** in 1999, and a **\$10 million endowment from the Wallace H. Coulter Foundation.**); College Library Committee; ABET Preparation; Faculty Advisor, FIU Flying Disc Club; Taught new undergraduate course in Biomedical Engineering Transport Phenomena.

Departmental and Committee Service at Texas A&M

Vision 2020 Imperative Team (2011); Faculty Advisor for Ultimate Frisbee team (2009-2013); Director of Biomedical Engineering Department Graduate Program (2005-2012); Departmental search/screen committee; Departmental tenure/promotion committee; College tenure/promotion committee; Advisor for BMES student chapter (2004-2006); A&M System Intellectual Property Constituent Committee (Chair as of June 2009, and representative to System Intellectual Property Oversight Committee); Texas Engineering Experiment Station Committee on Conflict of Interest Resolution; Texas A&M Institute for Preclinical Studies: Departmental Advisory Group, Industry Incubator Design Committee.

Departmental and Committee Service (Imperial College)

Departmental Director of Research (2013-2016), College-wide Entrepreneurship Education Committee (2014-), Departmental Management Committee (2013–2017), Departmental Research Committee (2016-), Director of MRes programme in Medical Device Entrepreneurship (2013-), Imperial Innovations MedTech Review Committee (2015-), College-wide review committee for Confidence-in-Concept internal funding scheme (2015-), Led several departmental initiatives for equipment funding. Served as judge for Imperial Enterprise Lab Dragon's Den. Imperial Experimental Cancer Medicine Centre (ECMC) Steering Committee.

Personal Interests

Music (Jorma number = 2), Founding member of BEDRock Band, Bicycling, Ultimate Frisbee: Eight-time participant in US National Championships; Represented Great Britain at 2017 Beach World Championships; Winner, 2003 AJ Bown award; USA Ultimate Certified Observer. WFDF Certified Game Advisor (served at 2016 World Championships). Chair, UK Ultimate SOTG (Sportsmanship) Committee.

James E. Moore Jr., Ph.D.

Research Funding

Previously Funded Research

Investigation of a Possible Relationship between Arterial Stresses and Atherogenesis. PI: Moore. Grant no. 21-32303.91, Funded by the Swiss National Scientific Research Fund, SFr. 124,355 (US\$108,130) for 1991-1993. Continuation funding of Sfr. 94,658 (US\$82,310) obtained for 1993-1995. *Goal: Quantify the Total Stress Field (fluid shear stress plus circumferential wall stress) in arterial models, taking into account the complex mechanical structure and behavior.*

Study of the Physical Properties and Functional Behavior of the Arterial Wall with Reference to the Prevention and Diagnosis of Atherosclerosis. PI: Meister. Funded by the Biomedical Engineering Collaboration Program of the University of Lausanne, the University Hospital and the Swiss Federal Institute of Technology at Lausanne, SFr. 925,555 (US\$804,830) for 1992-1995; collaboration with two other groups (Moore's share was approximately one-fifth). *Goal: Determine the effects of the Total Stress Field on vascular endothelial and smooth muscle cells.*

Coronary Artery Flow and Movement in 3D Based on Digital Angiography. PI: Moore. Grant no. 32-36296.92, Funded by the Swiss National Scientific Research Fund, SFr. 140,000 (US\$121,740) for 1992-1994; collaboration with the Cardiology Department at the University Hospital of Geneva (Moore's share was approximately two-thirds). *Goal: Analyze the effects of time-dependent geometry and movement due to heart contraction on flow patterns in the coronary arteries.*

Theoretical and Experimental Investigation of the Passive and Active Behavior of the Arterial Wall. PI: Meister. Grant no. 7BUPJ038566, Funded by the Swiss National Scientific Research Fund, SFr. 10,000 (US\$8700) for 1994; collaboration with the Institute of Biomechanics, Bulgarian Academy of Sciences. *Goal: Analyze the effects of the non-homogeneity of the arterial wall on its mechanical response.*

Flow Analysis of Vascular Stents. PI: Moore. Funded by the Florida International University Foundation, \$12,781.90 for 1995. *Goal: Determine the nature of the flow field through stented arteries.*

Visiting Industrial Scholar Program. PI: Moore. Funded by the Oak Ridge Associated Universities, \$600 for 1995-1996. *Goal: Travel funding for the visit of an industrial collaborator.*

Relationship Between the Distribution of Mechanical Strain Across the Aortic Wall and Synthetic Activity of Vascular Smooth Muscle Cells. PI: Moore. Funded by the Burroughs Wellcome Fund (Research Travel Grant), \$3000 for 1996 (Collaboration with Royal London Hospital). *Goal: Determine the relationship between the arterial wall mechanical environment and synthesis of medial structural protein synthesis in normo- and hyper-tensive rats.*

Sensor for Viscosity and Shear Strength Measurement. PI: Jones. Funded by the Department of Energy through the Hemispheric Center for Environmental Technologies, \$260,000 for 1995-1997 (Moore's share was approximately one-half). *Goal: Develop a remote fluid property measurement device for use in environmentally hazardous situations.*

Engineering Research Equipment: Tissue and Cellular Engineering Laboratory. PI: Moore. Funded by the National Science Foundation, \$50,351 for 1996-1997

Flow Analysis of the Schneider Wallstent. PI: Moore. Funded by Schneider USA Inc., \$46,536 for 1996-1997. *Goal: Evaluate the flow field through a commercially available vascular stent.*

The Effects of Movement and Deformation due to Myocardial Contraction on Blood Flow in the Coronary Arteries. PI: Moore. Funded by the Whitaker Foundation, \$163,614 for 1995-1998. *Goal: Analyze the effects of time-dependent geometry and movement due to heart contraction on flow patterns in the coronary arteries.*

Mechanical Analysis of the Stent/Artery System. PI: Moore. Funded by NATO, \$19,000 for 1998-1999; Computer supplement of \$3500 awarded in 1999 (Collaboration with Bowman Gray School of Medicine and the Bulgarian Academy of Sciences). *Goal: Analyze the wall stress concentrations in stented arteries.*

Endothelial Cell Migration in a Vascular Stent. PI: Moore. FIU Foundation, \$14,276 for 1999. *Goal: Assess the ability of vascular endothelial cells to grow over a stent geometry when subjected to physiologic flow conditions.*

Characterization and Design Evaluation of the Simplex Airbrator. PI: Schoephoerster. SMLX Technologies, \$16,387 for 1999-2000. *Goal: Evaluate the performance of a pneumatic abrasive dental instrument.*

Flow Changes in the Aorta Associated with the Deployment of the Cordis AAA Stent Graft. PI: Moore. Cordis Corp., \$39,130 for 1999-2000. *Goal: Determine the nature of the changes in aortic flow patterns following the deployment of a stent graft.*

Flow and Stretch Effects on the Behavior of Vascular Endothelial Cells. PI: Moore. Funded by the American Heart Association (Florida Affiliate), \$225,000 for 1997-2001. *Goal: Determine the effects of the Total Stress Field on cultured vascular endothelial cells.*

(A 3 year, \$333,779 National Institutes of Health {MBRS program} proposal was awarded, but had to be dropped due to overlap with this AHA grant.)

A New Model in Biomedical Engineering for Innovations in the Delivery of Medicine. PI: Schoephoerster. Whitaker Foundation Special Opportunity Award, \$999,616 for 1999 - 2002 (Moore was main contributing co-PI). *Goal: Establish an industry-targeted biomedical engineering combined bachelor/masters program.*

Integrated Thermal Management using Laminate and Ceramic MEMS Technology.

PI: W.K. Jones. US Department of Defense, \$600,000 for 1999 - 2002 (Moore is Co-PI with 5% effort). *Goal: Develop new Ceramic Co-fire pumping technology for cooling applications.*

Flow Changes in the Aorta due to Deployment of Tapered Endolegs in the Cordis

AAA Stent Graft. PI: Moore. Cordis Corp., \$20,258 for 2001-2002. *Goal: Quantify the effects of an AAA stent graft on aortic flow patterns.*

In Vivo and In Vitro Investigations of Stent Mechanics and Arterial Wall Response.

PI: J. Berry (Wake Forest University). Cordis Corporation, \$106,869 for 2000-2002. (Collaboration with Bowman Gray School of Medicine) *Goal: Evaluate the performance of a novel stent design in an animal model.*

Deformation of AAA Stent Grafts in Response to Physiologic Flow Forces. PI:

Moore. Boston Scientific Corporation, \$1110 for 2001-2002. *Goal: Measure the cyclic deformation of an AAA stent graft prototype in response to physiologic pressurization and flow.*

Instrumental in obtaining a \$10 million endowment for the FIU Biomedical Engineering Institute from the Wallace H. Coulter Foundation, 2000.

Flow Effects on Platelet Deposition in Stented Arteries. PI: Moore. NIH (SCORE

program and NHLBI), \$824,876 for 2000-2004. *Goal: Evaluate the role of blood flow patterns in the deposition of platelets onto arterial stents.*

Stented Artery Wall Stresses and Restenosis. PI: Moore. NIH (R01), \$1,453,233 for

2003-2008. *Goal: Quantify the stresses in a stented artery wall in different stent designs and evaluate the inflammatory responses of each in an animal model.*

Two-Layer Carotid Artery Histology and Mechanics. PI: Greenwald (Moore and A.

Yeh are Co-Applicants). UK/US Bioscience Collaboration Programme, \$25,000 for 2004-2006. *Goal: Utilize non-linear optics to quantify alignment of structural proteins in the artery wall, and incorporate into a mechanical model.*

Flow Patterns in Vena Cava Filter Devices. PI: Moore. Cordis Corp., \$13,100. *Goal:*

Construct computational models of filters deployed in the vena cava to evaluate flow disturbances in the presences of captured emboli.

BBSI: Vascular Bioengineering Summer Institute. PI: C. Quick. NSF, \$600,000 for

2006-2010 (Moore is co-PI with 8% effort).

Evaluation of Lymph Flow and Function. Co-PIs: Moore and Zawieja. NIH (R21),

\$386,977 for 2008-2010 (Moore is at 8% effort). *Goal: Implement high-speed video microscopic lymphocyte tracking for in situ observation of lymph flow, and construct computational flow models to estimate wall shear stress.*

Lymphatic Fluid Flow Modeling with Active Network Components. PI: Moore.

NIH (NHLBI and NCI), \$2,725,713 for 2009-2013 (Moore is at 20% effort). *Goal: Develop multi-scale models of lymphatic system function and apply to disease states.*

GOALI: Implementation of Biodegradable Material Models in ANSYS. PI: Moore. NSF, \$330,000 for 2011-2014. *Goal: Implement finite element models of biodegradable materials under complex loading conditions.*

Modelling of Lymph Node Transport and Metastatic Control. PI: Moore. Wellcome Trust/Imperial College ISSF via the Network of Excellence in Cancer Engineering, Supports one Masters level student for 2013-2014. *Goal: Construct lumped parameter/agent-based models of lymph node transport and function.*

Development of a Hybrid Dynamic Stent. PI: Moreno. NIH (NHLBI), \$100,000, 2013-2014 (-2017 on no-cost extension). (Moore is a consultant.) *Goal: Fabricate and test implantable prototypes of a novel stent design.*

Lymph Node Replacement Tissue Construct. PI: Moore. Imperial College Confidence in Concept Programme, 2014-2015, £51,470. *Goal: Proof of concept for manufacturing a lymph node replacement construct for implantation at the time of node biopsy or resection surgery.*

ALERT 2014: 3D Bioplotter Purchase. PI: Moore, CoPIs: Stevens, Almquist and Higgins. BBSRC, £180k, *Goal: Establish a biologically compatible additive manufacturing facility for various tissue engineering applications.*

Biomechanical Analysis of Lymph Transport and Immune Function. PI: Moore. Royal Academy of Engineering, 2015, £6000. *Goal: Distinguished Visiting Fellowship: Travel funds to host a collaborative visit from Prof. David Zawieja of Texas A&M University.*

Medical Device Entrepreneurship Strategy Workshop. PI: Moore, EPSRC via Institutional Sponsorship Scheme, 2015-2016, £42,566, *Goal: Organize a UK-wide symposium on medical device entrepreneurship for academia and industry.*

Uncovering the Internal Structure of Lymph Nodes. Lead Applicant: Joel Turner (Moore's role is Project Supervisor), Wellcome Trust Vacation Scholarship, 2016, £1500. *Goal: Image the blood vessels and collagen conduits in lymph nodes in full 3D.*

Currently Funded Research

Wolfson Research Merit Award. PI: Moore*. The Royal Society, £65,000 for 2013-2018. *Funding to recruit Moore to the UK.*

Senior Research Fellowship. PI: Moore*. The Royal Academy of Engineering, £210,000 for 2013-2018. *Funding to recruit Moore to the UK.*

Transport Phenomena in the Lymphatic System. PIs: Moore and Zawieja (Texas A&M). NIH U01, 2014-2019, \$3,148,891 (Moore's part is \$941k, at 9% effort). *Goal: Develop multi-scale models of lymphatic pumping, with special analysis of valve performance, muscle cell contractility and lymph node transport.*

Integrative Transport Phenomena in Chemokine Gradient Establishment. PI: Moore. Wellcome Trust Collaborative Award, 2017-2022, £1,954,326 (Moore's part is £792k, at 10% effort). *Goal: Develop a comprehensive quantitative knowledge base of chemokine gradient formation and regulation using integrated experimental and modelling approaches.*

Chemokine Transport Dynamics and Vascular Disease. PI: Moore. British Heart Foundation PhD Studentship for Willy Bonneuil, 2017-2020, £115,303. *Goal: Using a combination of modeling and experimental approaches, determine the role of chemokine gradients in vascular disease formation and progression to vulnerable plaque.*

Debunking the aortic myth: can fluid and material biomechanics predict thoracic aortic wall degradation? PI: T. Athanasiou. NIHR Imperial Biomedical Research Centre, 2018-2020, £207,734 (Co-Applicant Moore's part is £106,760 for post-doc and consumables). *Goal: Develop a novel aortic aneurysm rupture risk prediction algorithm using a multivariate model based on MRI, biomechanical testing, computational modelling, and biomarker analysis.*

* Proposals were prepared with substantial input from Moore, and submitted prior to Moore's arrival by Imperial College.

James E. Moore Jr., Ph.D.

Publications

H Index = 41 as of November 2018

Erdős number = 4

http://scholar.google.com/citations?user=AGEbb_wAAAAJ
orcid.org/0000-0003-1604-158X

Books and Book Chapters

1. Stergiopoulos, N., J.E. Moore Jr., X. Golay, D.N. Ku, J.J. Meister, On the Collapse of Compliant Axisymmetric Stenoses: Conditions and Nature of Collapse and Effects on Velocity Distribution, In: *Biofluid Mechanics*, Ed. by D. Liepsch, VDI Verlag, pp. 273-281, 1994.
2. Suciu, A., S. Zhao, J.E. Moore Jr., E. Burki, M. Burnier, H.R. Brunner, J.J. Meister, The Design of an Apparatus for Subjecting Vascular Endothelium to Physiologic Levels of Both Fluid Shear Stress and Circumferential Cyclic Stretch, In: *Biofluid Mechanics*, Ed. by D. Liepsch, VDI Verlag, pp. 541-550, 1994.
3. Moore, J.E. Jr., N. Guggenheim, A. Delfino, P.A. Doriot, P.A. Dorsaz, and W. Rutishauser, Arterial Fluid Dynamics: Relationship to Atherosclerosis and Application in Diagnostics. In: *Biofluid Methods in Vascular and Pulmonary Systems*, Vol. IV, CRC Press, Boca Raton, 2001.
4. Moore, J.E. Jr., Arterial Blood Flow, In: *Yearbook of Science and Technology*, McGraw Hill, ISBN 007052625-7, pp. 37-38, 1999.
- 5 & 6. CoEditor-in-Chief, *Biomedical Technology and Devices Handbook*, CRC Press, First Edition (2003): ISBN 0849311403. Second edition ISBN 9781439859599 (2013)
7. Moore, J.E. Jr., J. Bedoya, C. Meyer, M.R. Moreno, D. Mori, E. Rhabar, Vascular Mechanics, In *Wiley Encyclopedia of Biomedical Engineering*, Wiley and Sons, New York, ISBN 047124967X, 2006
8. Moreno, M.R., Bedoya, J., Meyer, C., Moore, J.E. Jr., Computational Modeling of Stented Arteries: Considerations for Evolving Stent Designs, In *Mechanics of Biological Tissue*, Springer, New York, ISBN 103540251944, 241-254, 2006
9. Soares, J.S., Moore, J.E. Jr., Rajagopal, K.R., Theoretical Modeling of Cyclically Loaded, Biodegradable Cylinders, In *Modeling and Simulation in Sciences, Engineering, and Technology*, Birkhauser, ISBN 978-0817644109, 2007
10. Moore, J.E. Jr., Edgar, L.T., Biomechanics of the Lymphatic Circulation, In *Lymphedema – A Concise Compendium of Theory and Practice*, Springer, DOI 10.1007/978-3-319-52423-8, ISBN 978-3-319-52421-4, 2018

Publications

1. Ku, D.N., S. Glagov, J.E. Moore Jr., and C.K. Zarins, Flow patterns in the abdominal aorta under simulated postprandial and exercise conditions: An experimental study, *Journal of Vascular Surgery*, 9: p. 309-316, 1989.
2. Moore, J.E. Jr., D.N. Ku, C.K. Zarins, and S. Glagov, Pulsatile flow visualization in the abdominal aorta under differing physiologic conditions: Implications for increased susceptibility to atherosclerosis, *ASME Journal of Biomechanical Engineering*, 114: p. 391-397, 1992.
3. He, X., D.N. Ku, and J.E. Moore Jr., Simple calculation of the velocity profiles for pulsatile flow in a blood vessel using Mathematica, *Annals of Biomedical Engineering*, 21: p. 45-49, 1993.
4. Moore, J.E. Jr. and D.N. Ku, Pulsatile velocity measurements in a model of the human abdominal aorta under resting conditions, *ASME Journal of Biomechanical Engineering*, 116: p. 337-346, 1994.
5. Moore, J.E. Jr., S.E. Maier, D.N. Ku, and P. Boesiger, Hemodynamics in the abdominal aorta: A comparison of in vitro and in vivo measurements, *Journal of Applied Physiology*, 76(4): p. 1520-1527, 1994.
6. Moore, J.E. Jr., E. Burki, A. Suciu, S. Zhao, M. Burnier, H.R. Brunner, and J.J. Meister, A device for subjecting vascular endothelial cells to both fluid shear stress and circumferential cyclic stretch, *Annals of Biomedical Engineering*, 22: p. 416-422, 1994.
7. Moore, J.E. Jr. and D.N. Ku, Pulsatile velocity measurements in a model of the human abdominal aorta under simulated exercise and postprandial conditions, *ASME Journal of Biomechanical Engineering*, 116: p. 107-111, 1994.
8. Moore, J.E. Jr., C. Xu, S. Glagov, C.K. Zarins, and D.N. Ku, Fluid wall shear stress measurements in a model of the human abdominal aorta: Oscillatory behavior and the relationship to atherosclerosis, *Atherosclerosis*, 110: p. 225-240, 1994.
9. Moore, J.E. Jr., N. Guggenheim, A. Delfino, P.A. Doriot, P.A. Dorsaz, W. Rutishauser, and J.J. Meister, Preliminary analysis of the effects of blood vessel movement on blood flow patterns in the coronary arteries, *ASME Journal of Biomechanical Engineering*, 116: p. 302-306, 1994.
10. Delfino, A., J.E. Moore Jr., and J.J. Meister, Lateral deformation and movement effects on flow through distensible tube models of blood vessels, *Biorheology*, 31(5): p. 533-547, 1994.
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90. Moore, J.E. Jr., Bertram, C.D. Lymphatic System Flows. *Annual Review of Fluid Mechanics*, 50(1): 459-482, 2018. doi 10.1146/annurev-fluid-122316-045259.
91. Moore, J.E. Jr., Brook, B.S., Nibbs, R.J.B., Chemokine Transport Dynamics and Emerging Recognition of Their Role in Immune Function. *Current Opinion on Biomedical Engineering*, 5, March 2018, 90-95. doi: 10.1016/j.cobme.2018.03.001. **Figure 1 used as cover art for journal.**
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93. Wilson, J.T., Edgar, L.T., Prabhakar, S., Horner, M., van Loon, R., Moore, J.E. Jr., A fully coupled fluid-structure interaction model of the secondary lymphatic valve, *Computer Methods in Biomechanics and Biomedical Engineering*, Accepted, 2018.

James E. Moore Jr., Ph.D.

Entrepreneurial Activities

Inventions

1. Compliance Matching Vascular Stent (US patent 6,206,910)
2. Compliance Matching Vascular Stent (US patent 6,572,649)
3. Method & Apparatus for Vascular Durability and Fatigue Testing (US patent 6,810,751). Sold to Bose Corporation.
4. Method & Apparatus for Vascular Durability and Fatigue Testing (US patent 7,472,604). Sold to Bose Corporation.
5. AAA stent graft (disclosed to Texas A&M)
6. Dynamic Stent (European Patent No. 1653885 DE FR GB)
7. Novel Stent (disclosed to Texas A&M)
8. Tissue Engineered Material Tester/Implant Preparer (disclosed to Texas A&M)
9. Steerable Medical Catheter (disclosed to Texas A&M)
10. Lymphedema Compression Device (disclosed to Texas A&M)
11. Convertible Vena Cava Filter (disclosed to Texas A&M)
12. Lymph Node Replacement Construct (UK patent application filed Nov 2014, PCT/GB2015/053560 filed Oct 2015, US-2017-0340430-A1)

Startups and Corporate Involvement

Co-Founder and Executive Vice President, Failure Analysis of Cardiovascular Technologies, 2001 – 2010.

Engineering Manager and Co-Founder, Angiomechanix LLC, 2003 – 2008.

Scientific Advisory Board, IDEV Technologies, Houston, 2005

Board Member, Southeast Healthcare Technology Alliance, 2017 - present (sehta.co.uk)

MedTech London Steering Group

Advisory Council, Research Valley Innovation Center, Texas

Consulting

AneuRx Inc. (1995); Medacoustics Inc. (1998-1999); Medika Ideas Corp. (1999); Cordis Corp. (2000-present); BioCure (2001); Boston Scientific (2001-present); Expert testimony (2001-present); Flowmedica Inc. (2002-2003), Medtronic (2001 – 2006)

James E. Moore Jr., Ph.D.

Educational Activities

Course (Module) Teaching

Medical Device Entrepreneurship, Biofluid Mechanics, Biosolid Mechanics, Heat Transfer, Ordinary Differential Equations, Partial Differential Equations, Basic and Advanced Fluid Mechanics.

Developed Imperial College Masters of Research in Medical Device Design and Entrepreneurship (2013–)

<https://www.imperial.ac.uk/bioengineering/study/postgraduate-research/mrs-med-device-design/>

- K. Ravichandran, Artificial Lymph Node, 2014. Currently Novus IT Business Analyst at Capita IT Professional Services. Device is patented and still under development.
- S. Popa, Cather-Based AV Fistula Device, 2014. Currently CEO of Pathfinder Medical, **commercializing that technology.**
- P. Angeles, Device to Quantify Symptoms of Parkinson's Disease, 2014. Currently a PhD student at Imperial College **further developing that technology.**
- F. Tempesti, Stroke Rehabilitation Robot, 2014. Currently employed at Boston Scientific.
- S. Odoom, Hand Therapy Device for Osteoarthritis, 2015. Currently a MedTech Innovation Consultant.
- A. Birch, Respirator Mask for Patients with Limited Mobility, 2016. Currently an anesthetist at Moorfields Eye Hospital and Entrepreneurial Consultant.
- V. Zaballa, Shoulder Implant, 2016. Currently a Medical Data Science Consultant.
- A. Gregory, Early Onset Pancreatic Cancer Detection Device, 2016. Currently Senior Regulatory Affairs Associate at startup Advanced Medical Solutions Ltd.
- S. Hoskyns, Traumatic Brain Injury Diagnosis Device, 2016. Currently Analyst at ClearView Healthcare Partners.
- J. Cudeiro, Blood-Brain-Barrier Permeability Device, 2016. Currently a PhD student at Imperial College. Device is patented and still under development.
- J. Fernandez-Quesada, Eye-Gaze Tracking Device, 2016. Currently Developer, Connected Wearable Medical Devices at Philips
- D. Taylor, Anti-Fouling Urinary Catheter, 2017. Currently CEO of ClearBlue Ltd., **commercializing that technology.**
- O. Johnson, Knee Rehab Device, 2017. Currently employed at Merck.
- K. Lichtenstein, Heart Failure Detection Device, 2017. Currently employed as a Thoracic Cardiovascular Surgeon, St. Paul's Hospital, Vancouver. Device is still under development.
- D.C. Mussett, Finger Orthosis for Osteoarthritis, 2017. Currently employed at Cambridge Consultants.
- S. Pavagada Guruprasad, Pre-Term Birth Risk Assessment Device, 2017. Currently pursuing PhD at University of Cambridge.
- J. Marston, Acute Kidney Injury Detection Device, 2017. Currently a medical student at Cambridge University. Device is still under development.
- C. Pichon, Aptamer-Based Drug Delivery System, 2018. Device is still under development.

- T. Mudge, Lateral Flow Assay for Myocardial Infarction Detection, 2018. Device is still under development.
 - B. Lakey, Prosthetic Hand Control Device, 2018. Seed funding secured, and student is involved in development.
 - G. Winfield, Paper-Based Breathing Monitor, 2018. Winner, NatWest Commercial Innovators Programme Pitch Event. Seed funding secured, and student is involved in development.
- Seven students currently enrolled.

Post-Doctoral Fellow Supervision

- Currently supervising three post-doctoral fellows.
- L. Edgar, 2015-2018, Currently a post-doctoral fellow at University of Edinburgh
 - D. Hayman, 2011-2014. Currently employed at Veryst Engineering, Boston.
 - C. Guivier-Curien, 2009. Currently a post-doctoral fellow at Polytech Marseille, France).
 - D. Mori, 2005-2006. Currently on faculty at Hachinohe National College of Technology, Japan.
 - A. Frank, 2000-2001. Currently a Research Engineer at Applied Research Associates.
 - P. Walsh, 1999-2002. Currently Founder and Director of BioQ Devices, Australia.

PhD Student Supervision

- Currently supervising three Ph.D. students.
- M. Jafarnejad, Computational Modelling and Experimental Evaluation of Fluid and Mass Transport in Lymph Node with Implications in Inflammation, Imperial College, 2016. Currently a Post-Doc at Johns Hopkins University.
 - S. Jamalian, Lumped-Parameter Modeling of Fluid Transport in the Lymphatic System, Imperial College, 2016. Currently a Post-Doc at Johns Hopkins University.
 - J. Wilson, Developing Biomechanical Models for the Lymphatic Valve, Imperial College, 2016. Currently employed with CD-ADAPCO.
 - W. Richardson, Vascular Smooth Muscle Precursor Cell Behavior in Non-Uniform Stretch Environments, Texas A&M University, 2012. Currently an Assistant Professor at Clemson University.
 - E. Rahbar, *Lymphatic Fluid Mechanics: An In Situ and Computational Analysis of Lymph Flow*, Texas A&M University, 2011. Currently an Assistant Professor at Wake Forest University.
 - L. Timmins, *Stented Artery Biomechanics: A computational and In Vivo Analysis of Stent Design and Pathobiological Response*, Texas A&M University, 2009. Currently an Assistant Professor at University of Utah.
 - C. Meyer, *Endografts, Pressure and the Abdominal Aortic Aneurysm*, Texas A&M University, 2008. Currently a Senior Lecturer at University of Texas at Dallas.
 - J. Soares (co-supervised with K. Rajagopal), *Constitutive Modeling for Biodegradable Polymers for Application in Endovascular Stents*, Texas A&M University, 2008. Currently an Assistant Professor at Virginia Polytechnical Institute. Winner, Young Investigator Award, Endocoronary Biomechanics Research Symposium, Marseille, France, 2010.
 - J.B. Dixon (co-supervised with G. Coté), A Biomedical Engineering Approach to Investigating Flow and Wall Shear Stress in Contracting Lymphatics, Texas A&M University, 2006. Currently as Associate Professor at Georgia Institute of Technology.
 - N. Duraiswamy (co-supervised with R. Schoepfoerster), Effect of Blood Flow Patterns on Localized Platelet Adhesion under Physiologic Flow Conditions using

Two-Dimensional and Three-Dimensional Stent Models – An Experimental and Computational Approach, Florida International University, 2005. Currently employed at the US Food and Drug Administration

J.L. Berry, *Improving the Biomechanics of Vascular Stents: A Theoretical, and Experimental Investigation*, Wake Forest University (Moore served as primary scientific advisor), 2000. Currently an Associate Professor at University of Alabama Birmingham.

A. Suciu, *Effects of External Forces on Endothelial Cells*, Swiss Federal Institute of Technology, 1997. Deceased.

A. Delfino, *Residual Strain Effects on the Stress Field in a Thick Wall Model of the Carotid Bifurcation*, Swiss Federal Institute of Technology, 1996. Currently employed with Michelin Research, Switzerland.

Research Masters Student Supervision

L. Zhuang, *The Study of Microcirculation and Oxygen Uptake in the Liver in Cirrhosis*, MRes Thesis, Imperial College, 2018.

J.J. Bedoya, *Stent Design in Hyperelastic Arterial Models. Parameterization Tools using the Finite Element Method*, M.S. Thesis, Texas A&M University, 2005. Currently employed at Stress Engineering Services.

M.R. Moreno, *Combined Effects of Flow Induced Pulsatile Shear Stress and Pressure Driven Cyclic Strain on Protein Expression by the Isolated Endothelium*, M.S. Thesis, Florida International University, 2003. Currently on faculty at Texas A&M University.

Y. He, *Computational Analysis of Blood Flow in a Stented Chamber under Physiologic Flow Conditions*, M.S. Thesis, Florida International University, 2002. Obtained Ph.D. from University of Pittsburgh. Currently a post-doc at University of Florida.

S. Robaina, *Platelet Adhesion to Simulated Stented Surfaces Under Physiologic Flow Conditions*, M.S. Thesis, Florida International University, 2002. Currently employed at Medtronic.

E.S. Weydahl, *Dynamic Curvature Effects on Flow through a Model Coronary Bifurcation*, M.S. Thesis, Florida International University, 1999. Subsequently pursued a Ph.D. at Cal. State LA.

Z. Mohammad, *Stress Concentrations in a Model of a Stented Artery*, M.S. Thesis, Florida International University, 1998.

A. Santamarina, *Time-Varying Curvature Effects on Flow through Coronary Artery Models*, M.S. Thesis, Florida International University, 1998. Currently employed with Bowles Fluidics Corp., Columbia, Maryland.

X. Golay, *Caracterisation de l'Écoulement dans un Tube Stenotique Collabable (Characterization of the Flow in a Stenotic Collapsible Tube)*, M.S. Thesis, Swiss Federal Institute of Technology, 1994. Obtained Ph.D. at Swiss Institute of Technology Zurich (ETHZ). Currently a Professor at University College London.

S. Schilt, *Caracterisation de l'Écoulement dans un Tube de Rayon de Courbure Variable (Characterization of the Flow in a Tube with Variable Curvature)*, M.S. Thesis, Swiss Federal Institute of Technology, 1994. Currently on faculty at University of Neuchatel, Switzerland.

A. Delfino, *Influence du Movement du Muscle Cardiaque sur l'Hémodynamique des Arteres Coronaires (Influence of Myocardial Movement on Blood Flow in the Coronary Arteries)*, M.S. Thesis, Swiss Federal Institute of Technology, 1993. Subsequently pursued Ph.D. in Moore's lab. Currently employed with Michelin Research, Switzerland.

Taught Masters Student Project Supervision

- V. Trivedi, The Biomedical Evaluation of Ureter Flow in Healthy & Obstructed Patients, MSC Project Report, Imperial College London, September 2018.
- L. Martens, Treating Shock Patients with Lower Limb Compression, MSC Project Report, Imperial College London, September 2018.
- J. Mann, Exploring Chemokine Gradient Formation through Experimental and Computational Modelling, MSC Project Report, Imperial College London, September 2017.
- M. Malafosse, Determination of a Constitutive Material Model for Lymphatic Vessels for Fluid-Structure Interaction Simulations, MSC Project Report, Imperial College London, September 2017. Currently pursuing MBA at Collège des Ingénieurs, France.
- G. Güell Garcia, Vacuum Device for the Treatment of Lymphoedema, MSC Project Report, Imperial College London, September 2017. Currently employed in industry.
- A. Ismail, Imaging and Quantification of the Lymph Node Vasculature & Conduit Systems, MSC Project Report, Imperial College London, September 2016. Currently employed at Owen Mumford.
- W. Bonneuil, Chemokine transport modelling and experiments in a microfluidic chamber, MSC Project Report, Imperial College London, September 2016. Currently a PhD student in Moore's lab.
- S. Banisadr, Development of a Microfluidic Platform for Acoustic Quantification of Microbubble Populations, MSC Project Report, Imperial College London, September 2016. Currently pursuing medical studies.
- D. Athanasiou, Lymphatic Vessel Characterisation, MSC Project Report, Imperial College London, September 2015. Currently employed in a medical device startup.

Graduate Thesis Committee Service

- Numerous M.S. and Ph.D. thesis committees at FIU, Texas A&M and Imperial College.
- External reviewer for Ph.D. theses at University of Pennsylvania, University of Toronto, the Mediterranean Institute of Technology, Marseille, France, University of New South Wales, Australia, Trinity College of Dublin, University of Limerick, University of Poitiers (France), National University of Ireland Galway, Ecole Polytechnique de Paris, Universidad de Zaragoza, Swedish Royal Institute of Technology, University of Sheffield, and Queen Mary University of London.

Senior Design Projects or Final Year Projects Supervised

- U. Agbai, Assessment of Stressed Musician Kinetics, 2017-2018
- E. Disney-Hogg, *Lymph Node Implant*, 2016-2017
- A. Ghahramani, *Lymphatic Fluid Transport and Exchange*, 2013-2014
- S. Ward, *Effects of Compressive Stress on Polymer Degradation*, 2013-2014
- H. Scruggs, G. Peña-Galea, O. Carrasco-Zevallos, S. Infanger, *Chordae Tendineae Gauging Instrument*, 2011-2012
- R. Rulla, D. Figueroa and K. Dobrzenski, *Low-Cost Blood Pressure Measurement*, 2011.
- B. Carpenter, J. Conway, P. Long and B. Sanchez, *Minimally Invasive GERD Treatment Device*, 2010-2011
- C. Leschaloupe and S. Chin Quee, *Angioplasty Balloon and Testing Devices*, 1998.
- A. Nasio, *Flying Disc Mounting Device for a Wind Tunnel*, 1998
- L. Keith, *Angioplasty Balloon*, Florida International University, 1997.
- C. Rivera, *Disposable Laproscopic Scissor*, Florida International University, 1996.

A. Menendez, D. Harsewak and G. Fray, *Design of a Vascular Stent*, Florida International University, 1995.

Undergraduate Research Fellows Supervised

A. Sadikov, 2016-present, Pursuing Meng at Imperial College London
M. Olchanyi, 2016-present, Pursuing Meng at Imperial College London
E. Disney-Hogg, 2016, MEng at Imperial College London
H. Davies, 2016, MEng at Imperial College London
J. Turner, 2016, Pursuing MEng at University of Manchester
C. Otieno, 2012-2013, Completed M.Phil. at Imperial College London
S. Brocklehurst, 2012-2013, Pursuing Ph.D. from University of Texas
C. Schaefer 2012, Pursuing B.S. from Texas A&M University
B. Placette, 2009-2010, B.S. from Texas A&M University. Subsequently pursued M.S. at Texas A&M University.
A. Peters, 2008-2009, B.S. from Texas A&M University. Subsequently pursued M.D./Ph.D. at University of Texas at Houston.
R. Dahlin, 2008, B.S. from Texas A&M University. Subsequently pursued Ph.D. at Rice University.
J. Golson, 2006, B.S. from Texas A&M University.
E. Rahbar, 2006, B.S. from Michigan State University. Received Ph.D. in Moore's lab. Currently on faculty at Wake Forest University.

Professional and Short Courses

Master of Science in Engineering Management (FIU); Courses delivered on-site at Cordis Corporation, Miami Lakes, Florida. Lectures delivered on cardiovascular physiology, biomechanics and interventional devices.

Educational and Outreach Activities

Organized a seminar series on biomedical engineering entrepreneurship at FIU (1998 – 2003). Speakers included entrepreneurs from many medical device sectors such as Dr. Julio Palmaz, developer of the first successful balloon expandable stent. Developed new courses in biofluid mechanics and biomedical engineering entrepreneurship at Texas A&M.

Entrepreneurship course was featured in local College Station newspaper, 2008.

Founded www.biofluidseducation.org

Published a peer-reviewed journal article on biofluids education issues (with D. Bluestein).

Served as academic advisor to almost all Biomedical Engineering Master of Engineering students at Texas A&M. This degree program is aimed at preparing students for industry (2005-2012).

Participated in a study abroad program in Bonn, Germany, Spring 2012. Taught differential equations and introductory biomechanics courses to Texas A&M students.

Developed new Master of Research program in Medical Device Design and Entrepreneurship at Imperial College London.

Delivered a WOW talk at the Apple Store, Regent Street, London, November 2013 (<http://www.youtube.com/watch?v=0Cw3DMxWjE&feature=youtu.be>)

Was interviewed for a documentary on lipodema research being produced by Lipodema Simplified LLC

<https://diseasetheycallfat.tv/shop/lipedema/research/lymph-flow/james-moore/>

Tweeted on @ImperialSpark by invitation, fielding a variety of questions (2014)

Presented a webinar for the Lymphatic Education & Research Network, November 2014

(<http://lymphaticnetwork.org/news-events/biomechanical-approach-lymphedema>)

Interviewed by Reuters related to Imperial College being ranked #11 in the world (#1 in Europe) for innovation:

<http://www.reuters.com/article/2015/09/15/idUSL1N11K2F720150915>

Royal Society "Meet the Media" event, 2016.

Fabricated a 3D printed model of microcirculation and lymphatic vessels for clinical demonstrations (Prof. Peter Mortimer, St. George's Hospital), 2016.

Invited speaker at the first event of the Imperial College Academic Health Science Centre Seminar Series, aimed at the general public and patients, Royal Brompton Hospital, May 2017.

http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newssummary/news_5-6-2017-14-48-48

Invited speaker at "Pint of Science" event, May 2017

Advised a group of four high school students from King's College London Mathematics School on a project, "Modelling Diagnosis and Treatment of Uretric Constrictions," 2017-2018.