# Zhaoming He

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**Research Interests**

My research interests involve cardiovascular system functionality, diseases, and related cures, pharmaceuticals or medical devices. My research goal is to understand cardiovascular mechanics, its impact on cardiovascular biology, and treatment of cardiovascular diseases. I am primarily concentrating on several aspects:

1) Cardiovascular fluid mechanics of heart valves and the vascular system
2) Heart valve and cardiac muscle tissue mechanics, and their interaction with cardiac function
3) Medical devices such as ventricle assist devices, artificial heart valve, heart valve reparative devices

**Education**

July 2000 - June 2003: Post Doctoral Fellow, Cardiovascular Fluid Mechanics and Tissue Mechanics
Department of Biomedical Engineering
Georgia Institute of Technology & Emory University
Project: Mitral Valve Function and Mechanics

Mar.1996-July 2000: Ph. D., Fluid Mechanics, Department of Engineering Mechanics
Tsinghua University, Beijing, P. R. China
Ph.D. thesis topic: Cavitation on Mechanical Heart Valve and
Cavitation Bubble Collapse Near Rigid Wall

Sept. 1987-Apr. 1990: M.E., Fluids Engineering, School of Energy Resources and Power Engineering,
Jiangsu University, Zhenjiang, Jiangsu, P. R. China
Master thesis topic: Numerical Simulation and Experimental Study
of Internal Flow in Semi-open Impeller of Centrifugal Pump

Sept. 1983 -July 1987: B.E., Fluid Machinery, School of Energy Resources and Power Engineering
Jiangsu University, Zhenjiang, Jiangsu, P. R. China

**Teaching and Work Experiences**

1. Aug.,2005-present: Assistant, Associate Professor of Department of Mechanical Engineering, Texas Tech University

   Courses taught are :

   1) Biofluid Mechanics (ME 5360), Fall, 2005
   2) Thermodynamics I (ME 2322-002), Spring, 2006
   3) Thermodynamics I (ME 2322-002), Fall, 2006
   4) Thermodynamics I (ME 2322-002), Spring, 2007
   5) Biofluid Mechanics (ME 6330-003), Fall, 2007
   6) Thermodynamics I (ME 2322-001 and 002), Sping, 2008
   7) Thermodynamics I (ME 2322-001 & -002), Fall, 2008
   8) Thermodynamics I (ME 2322-003 ), Spring, 2009
   9) Fluid Mechanics (ME 3370 -001 & 002), Fall, 2009
   10) Fluid Mechanics (ME 3370-003), Spring, 2010
   11) Biofluid Mechanics (ME 5360 ), Spring, 2010
   12) Thermodynamics I (ME 2322-003), Spring 2011

13) Thermodynamics I (ME 2322-002&004), Fall, 2011
14) Biofluid Mechanics (ME 4330-001), Fall, 2012
15) Fluid Mechanics (ME 3370-002), Spring, 2013
16) Biofluid mechanics (ME 5360), Spring, 2013
17) Fluid Mechanics (ME3370-001, 003, 004), Fall, 2014
18) Fluid Mechanics (ME3370-001, 002, 003), Spring, 2015
19) Mechanics of Solids (ME3403-001), Fall, 2015
20) Biofluid mechanics (ME 5360), Fall, 2015
21) Fluid mechanics(ME 3370-001&003), Spring, 2016
22) Fluid mechanics(ME 3370-001&003), Fall, 2016
23) Fluid mechanics (ME 3370-001&003), Spring, 2017
24) Fluid mechanics (ME 3370-001&002), Fall, 2017
25) Fluid mechanics (ME 3370-001&002), Spring, 2018
26) Fluid mechanics (ME 3370-001 ), Fall, 2018
27) Biofluid mechanics (ME 5360), Fall, 2018

2. Sept. 2012- Aug. 2015, Adjunct Professor, Research Center of Fluid Machinery Engineering and Technology at Jiangsu University, Zhenjiang, Jiangsu Province, P.R.China
3. Fall, 2013, Professional development leave, Jiangsu University, Zhenjiang, Jiangsu Province, P.R.China
4. Jan.-April, 2004, 2005: Teaching Assistant for the course “Biofluid Mechanics”, Department of Biomedical Engineering, Georgia Institute of Technology
5. June 2003-Aug.,2005: Research Engineer II, Department of Biomedical engineering, Georgia Institute of Technology & Emory University
6. Aug.,2001-Aug.,2005: Lab manager in Cardiovascular Fluid Mechanics Lab of Department of Biomedical Engineering, Georgia Institute of Technology
7. April 1990-Feb. 1996: Instructor of School of Energy Resources and Power Engineering, Jiangsu University. Undertaken Courses are as follows:
   1) CAD & CAT of Hydraulic Machinery
   2) Microcomputer Principle and Interface Technology
   3) Turbomachinery and Other Displacement Pumps
   4) Senior Design Project

**Grants**

1. July 1, 2006 to June 30, 2008: Edge to edge repair effect on the mitral valve function and improvement of the mitral valve repair procedure, American Heart Association, Texas Affiliate, Beginning-Grant-In-Aid (Grant # 0665055Y)as sole PI, funding amount $130,000
2. Jan 1, 2007 to Dec. 31, 2009 : Exploration of novel nanomaterials: synthesis, characterization, and engineering nano-materials, Texas Tech University, Vice President Research Grant, as Co-PI, funding amount $506,138
3. May 7, 2010 to March 31, 2012 : Mitral valve coaptation plate for ischemic mitral regurgitation, National Heart, Lung and Blood Institute (NIH Grant # R21HL102526), Funding amount $396, 831
4. Sept. 17, 2013 to Aug.31, 2014: Fully elastic annuloplasty based on mitral annulus mechanics, 2014 TTU Vice President Research Proposal Stimulus Program, Funding amount $8,500

**Honors and Awards**

1. Research Award of Department of Mechanical Engineering, 2011,Texas Tech University
2. Cast Scholarship, 1999, Tsinghua University.
3. Gaotian Scholarship, 1998, Tsinghua University
4. Third prize of Invention Competition, 1997, Tsinghua University
5. Second prize for Youth Lecture(1992), Jiangsu University
6. Excellent undergraduate Scholarship, First Prize, (1985,1986), Jiangsu University

**Professional Services**

**Grant Panel Review**

1. Panel review in the American Heart Association Grant on Bioengineering BSC1 Committee in Spring, 2017
2. Panel review of NIH AREA/R15 program in National Heart, Blood and Lung Institute in Nov., 2016
3. Panel review in the American Heart Association Grant on Bioengineering BSC3 Committee in Spring, 2016
4. Panel review in the American Heart Association Grant on Bioengineering BSc 4 Committee in Spring, 2015
5. Panel review of AREA/R15 program in National Heart, Blood and Lung Institute in July, 2014
6. Panel review of NIH SBIR program in National Heart, Blood and Lung Institute in January, 2014
7. Panel review in the American Heart Association Grant on Bioengineering BSc 4 Committee in Spring, 2013
8. Panel review of NIH SBIR program in National Heart, Blood and Lung Institute in November, 2012
9. Panel review in the American Heart Association Grant on Bioengineering & BSc4 Committee in Spring, 2012
10. Panel review in the American Heart Association Grant on Bioengineering & BSc 4 in Fall, 2012
11. Panel review in a panel review of CBET division of National Science Foundation in Dec., 2008

**Conference Chair**

12. Conference paper reviewer of in ASME SB3C in 2017
13. Conference paper reviewer of in ASME SB3C in 2016
14. Chair of Heart Valve Biomechanics II: Mechanics and Simulation of BMES annual meeting in 2010
15. Co-Chair of PhD Level Competition of Cardiovascular Flow in ASME SBC in 2011
16. Chair of cardiovascular mechanics session in World Congress of Bioengineering in 2009
17. Co-chair of Cardiovascular Engineering Session at BMES annual meeting in 2004

**Reviewer for Journals**

1. Acta Biomaterialia in 2017
2. Advances in Mechanics (Chinese) in 2011
3. Annals of Biomedical Engineering in 2009, 2013, 2014, 2016, 2017
4. Annals of Thoracic Surgery, 2015, 2016
5. American Journal of Physiology: Heart and Circulatory Physiology, 2017
6. Biomechanics and Modeling in Mechanobiology, 2016
7. BMJ Innovations, 2016
8. Cardiovascular Engineering and Technology in 2010, 2011, 2013, 2014, 2015, 2016, 2017, 2018
9. Circulation in 2010, 2011
10. Computer Methods in Biomechanics and Biomedical Engineering in 2012, 2013
11. Computational Physics in 2001
12. Chemical Engineering & Technology, 2013
13. Computational and Mathematic Methods in Medicine, 2013
14. Cell Biochemistry and Biophysics, 2016
15. Journal of Thoracic and Cardiovascular Surgery in 2011, 2012, 2013, 2015, 2016, 2017, 2018
16. Journal of Visualized Experiments in 2012

17. Journal of Medical Device in 2011,2013, 2016,2017
18. Journal of Health Care Engineering in 2012, 2013, 2015
19. Journal of Heart Valve Disease in 2008, 2009,2010, 2011
20. Journal of Biomechanics in 2009, 2012，2014, 2016
21. Journal of Biomedical Materials Research: Part A in 2008 and 2009, 2013
22. Journal of Biomechanical Engineering in 2003, 2004, 2007, 2008, 2014
23. Journal of the Mechanical Behavior of Biomedical Materials, 2017
24. Journal of Hydrodynamics, 2014
25. Libertas Academica in 2010
26. Tissue Engineering in 2010
27. International Journal of Numerical Methods in Biomedical Engineering, 2014
28. Journal of the Royal Society Interface, 2018

**Reviewer for Book**

1. "Encyclopedia of Biomaterials and Biomedical Engineering" by Marcel Dekker Taylor & Francis Group in 2005

**Professional Organization Memberships**

1. Member of the Biomedical Engineering Society
2. Member of the American Heart Association
3. Member of the World Association for Chinese Biomedical Engineers

**TTU services**

1. College of Tenure and Promotion Committee, 2015 -- present
2. China Service Graduate Scholarship Committee , 2018 – present

**Trainees In Dr. Zhaoming He's Lab**

**High School students – Clark Scholar Program of TTU**

1. Yadav Menaka Summer, 2008 – Clark Scholar Program of TTU
2. Priya Parameswaran Summer, 2011 – Clark Scholar Program of TTU
3. Andrew Wang Fall, 2017 (Dec)
4. Stephenie Wang Summer 2018 (7/29-8/9)

**Undergraduate students**

1. Marcus Hershey Fall 2007 – Spring 2008
2. Sibi Mathew Fall, 2006 – Summer 2007
3. Sudakar Rao Summer 2006 – Summer 2006
4. Sebastian Gomez Spring, 2012 -- Fall, 2012
5. Jose Garcia Spring, 2014 – Spring, 2014
6. Alex Weber Summer, 2016
7. Vianne Nanez Fall, 2016 – Spring, 2017
8. Dai Nugyen Summer, 2017

**MS Graduate Students**

1. Tyler Harrist Fall 2005 -- Spring 2006
2. Christopher Jowers Fall 2006 -- Fall 2007
3. Suveen Emmadi Fall 2007 – Fall 2008

4. Avik Basu Spring 2008 – Fall 2009
5. Courtney Riggan Fall 2008 – Fall 2010
6. Srikumar Krishnamoorthy, Fall 2010 – Spring 2012
7. Dylan Smith Summer 2011- Summer 2012
8. Philip Henry Fall, 2012 -- Summer, 2014
9. Kailiang Zhang Spring, 2011— Spring, 2014
10. Bingjing Zhou Fall, 2013 – Spring, 2016
11. Dong Zhao Spring, 2015 – Summer, 2016
12. Guijie Zhang Fall, 2014 – Spring, 2017
13. Yanfang Liu Fall, 2015 – Spring, 2018

**PhD Graduate Students**

1. Liang Shi Fall 2006 – Fall 2010
2. Shamik Bhattacharya Fall 2006 – Spring 2011
3. Bo Gao Fall 2006 – Fall, 2012
4. Avik Basu Fall, 2012 – Summer, 2017
5. Kailiang Zhang Spring 2015 – Summer, 2018
6. Hao Wang Fall, 2016 --
7. Bingjing Zhou Fall, 2017 –
8. Doruk Isik Spring, 2018 --

**Post doctoral Associates or Visiting Scholars**

1. Yingying Hu Spring 2008 – Fall 2010
2. Song Jiang Fall, 2011-- Fall, 2011
3. Dongxing Du Fall, 2012 – Spring, 2013
4. Fangqun Wang Fall, 2013 – Spring, 2016
5. Wengtao Feng Fall, 2014 – Fall, 2014
6. Yong Wang Spring, 2015 – Spring, 2016
7. Xue Bai Spring, 2016 – Spring, 2016
8. Guangjie Peng Fall, 2016 – Fall, 2017
9. Teng Jing Fall, 2017 – Summer, 2018
10. Hui Li Fall, 2017 – Fall, 2018
11. Yanpin Li Fall, 2017—
12. Li Zhang Fall, 2018 --

# Dr. Zhaoming He's Publications

**Book Chapter**

1. Ajit P. Yoganathan, **Zhaoming He**, Hwa-Liang Leo, Anna M. Fallon. Mechanical heart valves in: Encyclopedia of Biomaterials and Biomedical Engineering, Sapna Maloor Eds. Marcel Dekker, Inc.: New York in 2004:737-745

**Invention**

1. Yoganathan AP, Jimenez J, **He ZM**. Mitral Annuloplasty Chain. International application No.:PCT/US2004/020219, USPTO Patent Application 20060184240
2. ZM **He**, Mitral valve coaptation plate for mitral valve regurgitation, US patent application #12/422287
3. ZM **He**, K Zhang, T Jing, Mitral valve coaptation plate for mitral valve regurgitation, CN: ZL201410311083.6 ， PCT application PCT/CN2014/081897

**Peer Reviewed Journal Papers**

1. Zhang, R, Chen S, Jing T, Zhou BJ, **He ZM**, Anchor mechanics in the heart apex, Journal of Drainage and Irrigation Machinery Engineering, Accepted in 2018 (in Chinese)
2. Liu HY, Wang H, Chen S, Jing T, Wang K, **He ZM**, Simulation of IABP in ascending aorta, Journal of Drainage and Irrigation Machinery Engineering, Accepted in 2018 (in Chinese)
3. **He ZM** ,Liu YF, Jing T, Zhang GJ, Liu HY, Wang H, Heart Valve Model with controllable closing volume, Journal of Drainage and Irrigation Machinery Engineering, In press in 2018 (in Chinese)
4. Basu A, Lacerda C, **He ZM**, Mechanical Properties and Composition of the Basal Leaflet-Annulus Region of the Tricuspid Valve, Cardiovascular Engineering & Technology, 2018, 9(2)： 217-225， DOI: 10.1007/s13239-018-0343-4
5. Zhou BJ, Zhang GJ, Jing T, Wang H, **He ZM**, Numerical Study on Hemolysis of Two-stage Axial Blood Pump Pulsating during Heart Failure, Journal of Drainage and Irrigation Machinery Engineering, 2018, 36 (1):28-34 (in Chinese)
6. Zhang GJ, Wang H, Jing T, **He ZM**, Research of Mitral Valve Model in 0-D Left Ventricular Circulation System, Chinese Journal of Biomedical Engineering, 2017,36(3) 300-307 (in Chinese)
7. **He ZM**, Zhang K, Jing T, Wang Y, Transapical coaptation plate device for functional mitral regurgitation: an in-vitro study, Annals of Biomedical Engineering, 2017, 45(2): 487-495, DOI: 10.1007/s10439-016-1726-z
8. Wang FQ, Xu Qing, Wu ZH, Wen TY, Jing JH, **He ZM**, Control Study on Circulation System with Left Ventricular Assist Device, Journal of Biomedical Engineering, 2016 (6) :1075-1083 (in Chinese)
9. Zhou BJ, Jing T, Wang FQ, **He ZM**, Numerical Simulation Study of Two-stage Axial Blood Pump, Journal of Biomedical Engineering, 2016, 33(4):686-697 (in Chinese)
10. Basu A, **He ZM**, Annulus Tension on the Tricuspid Valve Annulus: An In-Vitro study, Cardiovascular Engineering Technology, 2016, 7(3) 270-279, DOI: 10.1007/s13239-016-0267-9
11. Zuo KP, Pham T, Li KW, Martin C, **He ZM**, Sun W, Characterization of Biomechanical Properties of Aged Human and Ovine Mitral Valve Chordae Tendineae, Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62:607-618
12. Wen TY, Wang FQ, Wang H, **He, ZM**, Modeling and Simulation of Left Ventricular Circulation System Based on the Mitral Valve Model of Time-varying Resistance, Chinese Journal of Biomedical Engineering, 2015, 34(3): 41-46 (in Chinese)
13. Bhattacharya S, **He ZM**, Mechanics of Mitral valve edge-to-edge-repair and MitraClip procedure, Journal of Long-term effects of medical implants, 2015, 25, 135-145, DOI: 10.1615/JLongTermEffMedImplants.2015011729
14. **He ZM**, Zhang K, Gao B, A novel coaptation plate device for functional mitral regurgitation: an in-vitro

study, Annals of Biomedical Engineering, 2014,42: 2039-2047, DOI：10.1007/s10439-014-1065-x
15. Chen Z, Parameswaran S，Hu Y, **He ZM**, Raj R, Parameswaran, S, Numerical simulations of high frequency respiratory flows in 2D and 3D lung bifurcation models, International Journal for Computational Methods in Engineering Science & Mechanics, 2014, 15, 337-344
16. Bhattacharya S, Pham T, **He ZM**, Sun W, Tension to passively cinch the mitral annulus through coronary sinus access: an ex vivo study in ovine model, Journal of Biomechanics, 2014, 47: 1382-1388
17. Du D, Jiang S, Wang Z, Hu Y, **He ZM**, Effects of Suture Position on Left Ventricular Fluid Mechanics under Mitral Valve Edge-to-Edge Repair, Biomedical Materials and Engineering. 2014, 24: 155-161, DOI: 10.3233/BME-130795
18. Hu Y, Shi L, Du D, Parameswaran S, **He ZM**, An elongation model of left ventricle deformation in diastole, Computer Methods in Biomechanics and Biomedical Engineering, 2013,16: 66-72, DOI: 10.1080/10255842.2011.607442
19. Bhattacharya S, **He ZM**, Annulus tension of the prolapsed mitral valve corrected by edge-to-edge repair. Journal of Biomechanics, 2012, 45 : 562–568
20. **He ZM**, Bhattacharya S, Mitral valve annulus tension and mechanism of annulus dilatation: an in-vitro study, Journal of Heart Valve Disease, 2010, 19: 701-707
21. Hu Y, Shi L, Parameswaran S, Smirnov S, **He ZM**, Left Ventricular Vortex under mitral valve edge-to-edge repair, Cardiovascular Engineering and Technology, 2010, 1: 235-243
22. Padala M, Sacks MS, Liou WS, Balachandran K, **He ZM**, Yoganathan AP. Mechanics of the mitral valve strut chordate insertion region, Journal of Biomechanial Engineering. 2010, 132: 081004
23. **He ZM**, Gao B, Bhattacharya S, Harrist T, Mathew S Sun W. In vitro stretches of the mitral valve anterior leaflet during diastole under edge-to-edge repair, Journal of Biomechanical Engineering, 2009,131:111012
24. Bhattacharya S, **He ZM**. Role of annulus tension in annulus dilatation, Journal of Heart Valve Disease, 2009,18:481-487
25. Shi L, **He ZM**, Hemodynamics of the mitral valve under edge-to-edge repair: an in-vitro study, Journal of Biomechanical Engineering, 2009;131:051010
26. Gao B, Sun W, Mathew S, **He ZM**. Effect of papillary muscle position on anterior leaflet stretches under mitral valve edge-to-edge repair, Journal of heart valve disease, 2009; 18 : 135-141
27. **He ZM**, Jowers C. A novel method to measure mitral valve chordal tension, Journal of Biomechanical Engineering, 2009; 131: 014501
28. **He ZM**, Jowers C. Effect of mitral valve strut chord cutting on marginal chordal tension, Journal of Heart Valve Disease, 2008; 17: 628-634
29. **He ZM**, Bhattacharya S. Papillary muscle and annulus size effect on anterior and posterior annulus tension of the mitral valve, Journal of Biomechanics, 2008; 41(11): 2524-2532
30. Ma Y, Cui Q, Shen L, **He ZM**, X-ray diffraction study of nanocrystalline tungsten nitride and tungsten to 31 GPa, Journal of Applied Physics (online). 2007;102, 013525
31. Jimenez JH, Liou SW, Padala M, **He ZM**, Sacks M, Gorman RC, Gorman JH 3rd, Yoganathan AP. A saddle-shaped annulus reduces systolic strain on the central region of the mitral valve anterior leaflet. Journal of Thoracic and Cardiovascular Surgery, 2007; 134(6):1562-1568
32. Jimenez JH, Forbess J, Croft LR, Small L, **He ZM**, Yoganathan AP. Effects of annular size, transmitral pressure, and mitral flow rate on the edge-to-edge repair: an in vitro study. Annals of Thoracic Surgery. 2006; 82(4):1362-1368
33. Ritchie J, Jimenez J, **He ZM**, Sacks MS, Yoganathan AP. The material properties of the native porcine mitral valve chordae tendineae: an in vitro investigation. Journal of Biomechanics. 2006; 39(6): 1129-1135

34. Warnock J, Konduri S, **He ZM**, Yoganathan AP. Design of a sterile organ culture system for the ex vivo study of aortic heart valves, Journal of Biomechanical Engineering, 2005; 127(5): 857-861
35. Konduri S, Xing Y, Warnock JN, **He ZM**, Yoganathan AP. Normal physiological conditions maintain the biological characteristics of porcine aortic heart valves: an ex vivo organ culture study, Annals of Biomedical Engineering, 2005; 33(9): 1158-1166
36. **He ZM**, Ritchie J, Grashow J, Sacks MS, Yoganathan AP. In vitro dynamic Strain behavior of the mitral valve posterior leaflet, Journal of Biomechanical Engineering. 2005; 127(3):504-511
37. Jimenez JH, Soerensen DD, **He ZM**, Ritchie J, Yoganathan AP, Mitral valve function and chordal force distribution using a flexible annulus model: an in vitro study, Annals of Biomedical Engineering. 2005;33(5):557-566
38. Jimenez JH, Soerensen DD, **He ZM**, Ritchie J, Yoganathan AP. Effects of a papillary muscle position on chordal force distribution: an in vitro study, Journal of Heart Valve Disease, 2005;15:295-302
39. Yoganathan AP, **He ZM**, Casey Jones, Fluid mechanics of heart valves, Annual Review of Biomedical Engineering，2004, 6 : 331-362
40. Xing Y, Warnock J, **He ZM**, Hilbert SL, Yoganathan AP. Cyclic pressure affects the biological properties of porcine aortic valve leaflets in a magnitude and frequency dependent manner, Annals of Biomedical Engineering, 2004; 32:1461-1470
41. Xing, Y, **He ZM**, Warnock J, Hilbert SL, Yoganathan AJ. Effects of constant static pressure on the biological properties of porcine heart valve cusps. Annals of Biomedical Engineering. 2003; 32(4):555-562
42. Jimenez JH, He S, Soerensen DD, **He ZM**, Yoganathan AP. Effects of a saddle shaped mitral annulus on regurgitation and chordal force distribution: an in vitro study. Annals of Biomedical Engineering, 2003;31(10): 1171-1181
43. **He ZM**, Sacks MS, Baijens L, Wanant S, Shah P, Yoganathan A. Effects of Papillary Muscle Position on the in vitro dynamic strain on the porcine mitral valve, Journal of Heart Valve Disease. 2003; 12: 488-494
44. He S, Jimenez J, **He ZM**, Yoganathan AP. Mitral leaflet geometry perturbations with papillary muscle displacement and annulus dilatation: an in vitro study of ischemic mitral regurgitation. Journal of Heart Valve Disease, 2003; 12: 300-307
45. Sacks MS, **He, ZM**, Baijens L, Wanant S, Shah P, Sugimoto H, Yoganathan AP. Surface strains in the anterior leaflet of the functioning mitral valve. Annals of Biomedical Engineering, 2002; 30: 1281-1290
46. Leo-Hwa Liang, **He ZM**, Ellis J, Yoganathan A. Micro flow fields in the hinge region of Carbomedics bileaflet mechanical valve design. Journal of Thoracic Cardiovascular Surgery, 2002; 124:561-574
47. **He ZM**, Xi BS, Zhu KQ Zhu PZ. Visualization of cavitation on GK type of mechanical heart valve. Chinese Journal of Biomedical Engineering, 2002; 21(4): 298-303(in Chinese)
48. **He ZM**, Xi BS, Zhu KQ, Hwang NHC. Mechanisms of mechanical heart valve cavitation: investigation using a tilting disk valve model. Journal of Heart Valve Disease, 2001, 10: 666-674
49. **He ZM**, Xi BS, Zhu KQ, Liu N. Calculation of pressure on decelerating piston surface and cavitation incipience prediction. Journal of Tsinghua University (Science and Technology), 1999,39(11): 54-57(in Chinese)
50. **He ZM**, Xi BS, Zhu KQ, Li X. Study of Visualization of cavitation on decelerating piston Surface, Experimental Mechanics, 1999,14(3): 309-315(in Chinese)
51. **He ZM**, Xi BS, Zhu KQ. Progress of study on cavitation on mechanical heart valve. Journal of Biomedical Engineering.1999, 16(2): 243-248(in Chinese)
52. Lin HY, **He ZM**, Jia PT. Design of spherical-rotor pump, Journal of Jiangsu University of Science and Technology, 1995.16: 38-44(in Chinese)
53. Liu ZY, **He ZM**. Problems of fluid mechanics on hydraulic transportation, Journal of Jiangsu University of

Science and Technology, 1995,16: 99-103(in Chinese)

54. Lin HY, **He ZM**, Kinematic analysis of spherical-rotor pump, Transactions of the Chinese Society of Agricultural Machinery, 1995, 26: 115-117(in Chinese)
55. **He ZM**, Lin HY. Discharge pulsation analysis of spherical-rotor pump, Journal of Jiangsu University of Science and Technology, 1993, 14, (6): 47-52(in Chinese)

**Presentations or Conference Papers**

Invited Speaker

1. **He ZM**, Minimally invasive mitral valve repair, Invited Lecture of State Food and Drug Administration of China, Beijing, P.R.China, Aug. 10, 2011
2. **He ZM**, Zhang GJ, Lumped Parameter Model of the Heart Valve in Circulation System, The 16th International Conference on Biomedical Engineering, Singapore, Dec 7-10, 2016

Conference presentation

General speaker

3. Zhang K, **He ZM**，Transapical coaptation plate for functional mitral regurgitation, BMES Annual Meeting, Minneapolis, MN, Oct. 5-8, 2016
4. Basu A, **He ZM**, Annulus Tension on the Tricuspid Valve after Clover Repair, BMES annual meeting, San Antonio, TX, Oct.22-25,2014
5. Zhang K, Gao B, **He ZM**, Coapatation Plates to Prevent Ischemic Mitral Regurgitation :An In-vitro Study, 6th WACBE Congress of Bioengineering, Beijing, China, Aug.5-8, 2013
6. Smith D, Basu A, **He ZM**, Papillary muscle effect on tricuspid annulus tension: an in vitro study, BMES Annual Meeting, Atlanta, GA, Oct 20-24, 2012
7. Jiang S, Wang Z, Hu Y, **He ZM**, Effects of Mitral Valve Suture Position on Left Ventricular Vortex and Energy Under Edge-to-Edge Repair, 2012 ASME SBC, Fajardo, Puerto Rico, June 20-23, 2012
8. Gao B, **He ZM**, Where leaks in ischemic mitral regurgitation, Valves in the Heart of the Big Apple VII: Evaluation & Management of Valvular Heart Diseases 2012, New York City, NY, April 12-14, 2012
9. **He ZM**, Mechanism of Mitral valve annular dilatation, China Heart Congress, Beijing, Aug.11-14, 2011
10. Chen Z, Parameswaran S, Hu Y, and **He ZM**, Numerical simulations of high frequency respiratory flows in a 3D lung bifurcation model, BMES Annual Meeting, Hartford, CT, Oct 12-15, 2011
11. Gao B, **He ZM**, Mitral valve leaflets coaptation mechanism, BMES Annual Meeting, Hartford, CT, Oct 12-15, 2011
12. Bhattacharya S, **He ZM**, Tricuspid valve annulus tension, ASME Summer Bioengineering Conference, Famington, PA, June 22-25, 2011
13. Shi L, Hu Y, **He ZM**, Vortex Interaction and Dissipation under Edge-to-Edge Repair, BMES Annual Meeting, Austin, TX, Oct. 6-9, 2010
14. Gao B, **He ZM**, Mitral Valve Geometry Difference Between Ischemic and Dilated Condition During Systole, BMES Annual Meeting, Austin, TX, Oct. 6-9, 2010
15. Bhattacharya S, **He ZM**, Annulus Tension of Tricuspid Valve Annulus, BMES Annual Meeting, Austin, TX, Oct. 6-9, 2010
16. **He ZM**, Mitral valve function and mechanics, Invited talk of The 4th Sino-American Workshop on Biomedical Engineering and China-Oversea Joint Workshop on Biomechanics, at Chongqing, China, July 26th ~July 31st, 2010
17. Bhattacharya S, **He ZM**, Annulus Tension of prolapsed mitral valve with edge-to-edge-repair, ASME Summer Bioengineering Conference, Naples, FL, June 16-19, 2010
18. Shi L, Hu Y, **He ZM**, Vortex Dynamics in the Left Ventricle under Mitral Valve Edge-to-Edge Repair, ASME Summer Bioengineering Conference, Naples, FL, June 16-19, 2010

19. Gao B, **He ZM**, Coaptation Mechanism of the Mitral Valve with Displaced Papillary Muscles, ASME Summer Bioengineering Conference, Naples, FL, June 16-19, 2010
20. Hu Y, Shi L, Parameswaran S, Smirnov S, **He ZM**, Computational Study on Diastolic Left Ventricular Hemodynamics Using a Motion Model of Mitral Valve with/without Edge-to-Edge Repair, ASME Summer Bioengineering Conference, Naples, FL, June 16-19, 2010
21. **He ZM**, Bhattacharya S, Mitral Valve Annulus Tension and Mechanism of Annulus Dilatation -- An In-vitro Study, Valves in the Heart of the Big Apple VI: Evaluation & Management of Valvular Heart Disease, April 15-17, 2010
22. Hu Y. Shi L, Sun W. **He ZM**, Diastolic Left Ventricular Hemodynamics with Mitral Valve Edge-to-Edge Repair, WACBE biennial meeting, Hong Kong, China, July 26-29, 2009
23. Bhattacharya S, **He ZM**, Edge-to-edge effect on chordal tension in a prolapsed mitral valve, ASME summer bioengineering conference, abstract # 204845, Tahoe city, CA, June 17-21, 2009
24. Bhattacharya S, **He ZM**, Mitral valve annulus tension, ASME summer bioengineering conference, Marco Island, FL, 6/25-6/29/08
25. Shi L, **He, ZM**, Study on the Mitral Valve Diastolic Downstream Flow under the ETER Condition, 25th HSEMB Conference, Houston, TX, 2/7-2/8, 2008
26. Jowers C, **He ZM**. Effect of severance of the strut chordae on the marginal chordae. 2007 BMES meeting, Los Angles, CA, 9/26-9/29/07
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