Zhongjun J. Wu

List of Publications by Year
in descending order

132	3,586	136950	155660
papers	citations	32 h-index	55 g-index

133	133	133	2721
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Models of Shear-Induced Platelet Activation and Numerical Implementation With Computational Fluid Dynamics Approaches. Journal of Biomechanical Engineering, 2022, 144, .	1.3	14
2	Neutrophil dysfunction due to continuous mechanical shear exposure in mechanically assisted circulation in vitro. Artificial Organs, 2022, 46, 83-94.	1.9	3
3	Numerical study of the effect of LVAD inflow cannula positioning on thrombosis risk. Computer Methods in Biomechanics and Biomedical Engineering, 2022, 25, 852-860.	1.6	2
4	In Vitro Comparison of Recombinant and Plasma-Derived von Willebrand Factor Concentrate for Treatment of Acquired von Willebrand Syndrome in Adult Extracorporeal Membrane Oxygenation Patients. Anesthesia and Analgesia, 2022, 134, 312-321.	2.2	7
5	MSC Pretreatment for Improved Transplantation Viability Results in Improved Ventricular Function in Infarcted Hearts. International Journal of Molecular Sciences, 2022, 23, 694.	4.1	2
6	Development of an ambulatory extracorporeal membrane oxygenation system: From concept to clinical use. Applications in Engineering Science, 2022, 10, 100093.	0.8	7
7	Acquired platelet defects are responsible for nonsurgical bleeding in left ventricular assist device recipients. Artificial Organs, 2022, 46, 2244-2256.	1.9	7
8	Computational fluid dynamics analysis and experimental hemolytic performance of three clinical centrifugal blood pumps: Revolution, Rotaflow and CentriMag. Medicine in Novel Technology and Devices, 2022, 15, 100153.	1.6	5
9	Computed tomography angiography as an adjunct to computational fluid dynamics for prediction of oxygenator thrombus formation. Perfusion (United Kingdom), 2021, 36, 285-292.	1.0	11
10	Neutrophil injury and function alterations induced by high mechanical shear stress with short exposure time. Artificial Organs, 2021, 45, 577-586.	1.9	7
11	Device-Induced Hemostatic Disorders in Mechanically Assisted Circulation. Clinical and Applied Thrombosis/Hemostasis, 2021, 27, 107602962098237.	1.7	29
12	Flow characteristics and hemolytic performance of the new Breethe centrifugal blood pump in comparison with the CentriMag and Rotaflow pumps. International Journal of Artificial Organs, 2021, 44, 829-837.	1.4	14
13	Pasta for all: Abiomed Breethe extracorporeal membrane oxygenation system. JTCVS Open, 2021, 8, 108-113.	0.5	2
14	An exâ€vivo comparison of partial thromboplastin time and activated clotting time for heparin anticoagulation in an ovine model. Artificial Organs, 2021, , .	1.9	4
15	Ambulatory home wearable lung: progress and future directions. Reviews in Cardiovascular Medicine, 2021, 22, 1405.	1.4	0
16	High-efficiency, high-flux in-line hemofiltration using a high blood flow extracorporeal circuit. Perfusion (United Kingdom), 2020, 35, 351-355.	1.0	2
17	Evaluation of an autoregulatory ECMO system for total respiratory support in an acute ovine model. Artificial Organs, 2020, 44, 478-487.	1.9	7
18	The impact of shear stress on deviceâ€induced platelet hemostatic dysfunction relevant to thrombosis and bleeding in mechanically assisted circulation. Artificial Organs, 2020, 44, E201-E213.	1.9	25

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19	The Role of a Disintegrin and Metalloproteinase Proteolysis and Mechanical Damage in Nonphysiological Shear Stress-Induced Platelet Receptor Shedding. ASAIO Journal, 2020, 66, 524-531.	1.6	5
20	Understanding Extracorporeal Membrane Oxygenation Induced Coagulopathy: Many Pieces to the Puzzle. Critical Care Medicine, 2020, 48, e732-e733.	0.9	2
21	Modeling Clot Formation of Shear-Injured Platelets in Flow by a Dissipative Particle Dynamics Method. Bulletin of Mathematical Biology, 2020, 82, 83.	1.9	13
22	Computational characterization of flow and blood damage potential of the new maglev CH-VAD pump versus the HVAD and HeartMate II pumps. International Journal of Artificial Organs, 2020, 43, 653-662.	1.4	32
23	Impact of high mechanical shear stress and oxygenator membrane surface on blood damage relevant to thrombosis and bleeding in a pediatric ECMO circuit. Artificial Organs, 2020, 44, 717-726.	1.9	35
24	Prediction of mechanical hemolysis in medical devices via a Lagrangian strainâ€based multiscale model. Artificial Organs, 2020, 44, E348-E368.	1.9	20
25	Model-Based Design and Optimization of Blood Oxygenators. Journal of Medical Devices, Transactions of the ASME, 2020, 14, 041001.	0.7	3
26	Sensorless Physiologic Control, Suction Prevention, and Flow Balancing Algorithm for Rotary Biventricular Assist Devices. IEEE Transactions on Control Systems Technology, 2019, 27, 717-729.	5.2	12
27	Evaluation of in vitro hemolysis and platelet activation of a newly developed maglev LVAD and two clinically used LVADs with human blood. Artificial Organs, 2019, 43, 870-879.	1.9	28
28	A novel adaptor system enables endovascular access through extracorporeal life support circuits. Journal of Thoracic and Cardiovascular Surgery, 2019, 158, 1359-1366.	0.8	4
29	The role of PI3K/Akt signaling pathway in nonâ€physiological shear stressâ€induced platelet activation. Artificial Organs, 2019, 43, 897-908.	1.9	25
30	Deviceâ€induced platelet dysfunction in mechanically assisted circulation increases the risks of thrombosis and bleeding. Artificial Organs, 2019, 43, 745-755.	1.9	31
31	Shear stress and blood trauma under constant and pulse-modulated speed CF-VAD operations: CFD analysis of the HVAD. Medical and Biological Engineering and Computing, 2019, 57, 807-818.	2.8	41
32	High shear induces platelet dysfunction leading to enhanced thrombotic propensity and diminished hemostatic capacity. Platelets, 2019, 30, 112-119.	2.3	55
33	Quantitative Characterization of Shear-Induced Platelet Receptor Shedding: Glycoprotein Ibα, Glycoprotein VI, and Glycoprotein IIb/IIIa. ASAIO Journal, 2018, 64, 773-778.	1.6	27
34	Association of Oxidative Stress and Platelet Receptor Glycoprotein GPIbα and GPVI Shedding During Nonsurgical Bleeding in Heart Failure Patients With Continuous-Flow Left Ventricular Assist Device Support. ASAIO Journal, 2018, 64, 462-471.	1.6	13
35	Flow features and deviceâ€induced blood trauma in CFâ€VADs under a pulsatile blood flow condition: A CFD comparative study. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2924.	2.1	52
36	Mechanistic insight of platelet apoptosis leading to non-surgical bleeding among heart failure patients supported by continuous-flow left ventricular assist devices. Molecular and Cellular Biochemistry, 2017, 433, 125-137.	3.1	23

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37	Infection, Oxidative Stress, and Changes in Circulating Regulatory T Cells of Heart Failure Patients Supported by Continuous-Flow Ventricular Assist Devices. ASAIO Journal, 2017, 63, 128-133.	1.6	16
38	Oxidative stress induced modulation of platelet integrin Î±2bÎ²3 expression and shedding may predict the risk of major bleeding in heart failure patients supported by continuous flow left ventricular assist devices. Thrombosis Research, 2017, 158, 140-148.	1.7	19
39	Paradoxical Effect of Nonphysiological Shear Stress on Platelets and <scp>v</scp>on <scp>W</scp>illebrand Factor. Artificial Organs, 2016, 40, 659-668.	1.9	81
40	Left Ventricular Unloading After Acute Myocardial Infarction Reduces MMP/JNK Associated Apoptosis and Promotes FAK Cell-Survival Signaling. Annals of Thoracic Surgery, 2016, 102, 1919-1924.	1.3	4
41	Extracorporeal Respiratory Support With a Miniature Integrated Pediatric Pumpâ€Lung Device in an Acute Ovine Respiratory Failure Model. Artificial Organs, 2016, 40, 1046-1053.	1.9	13
42	Systemic Inflammatory Response Syndrome in End-Stage Heart Failure Patients Following Continuous-Flow Left Ventricular Assist Device Implantation: Differences in Plasma Redox Status and Leukocyte Activation. Artificial Organs, 2016, 40, 434-443.	1.9	27
43	Effects of small platform catheter-based left ventricular assist device support on regional myocardial signal transduction. Journal of Thoracic and Cardiovascular Surgery, 2015, 150, 1332-1341.	0.8	3
44	Effects of Cardiopulmonary Support With a Novel Pediatric Pumpâ€Lung in a 30â€Day Ovine Animal Model. Artificial Organs, 2015, 39, 989-997.	1.9	15
45	Quantification of Shearâ€Induced Platelet Activation: High Shear Stresses for Short Exposure Time. Artificial Organs, 2015, 39, 576-583.	1.9	57
46	Comparison of Intraplatelet Reactive Oxygen Species, Mitochondrial Damage, and Platelet Apoptosis After Implantation of Three Continuous Flow Left Ventricular Assist Devices. ASAIO Journal, 2015, 61, 244-252.	1.6	18
47	Shear-induced platelet receptor shedding by non-physiological high shear stress with short exposure time: Glycoprotein Ibî± and glycoprotein VI. Thrombosis Research, 2015, 135, 692-698.	1.7	58
48	Systemic Inflammatory Response Syndrome After Contentious-Flow Left Ventricular Assist Device Implantation and Change in Platelet Mitochondrial Membrane Potential. Journal of Cardiac Failure, 2015, 21, 564-571.	1.7	10
49	Activation and shedding of platelet glycoprotein IIb/IIIa under non-physiological shear stress. Molecular and Cellular Biochemistry, 2015, 409, 93-101.	3.1	64
50	Shear-Induced Hemolysis: Species Differences. Artificial Organs, 2015, 39, 795-802.	1.9	63
51	Mechanical Circulatory Support of a Univentricular Fontan Circulation with a Continuous Axial-Flow Pump in a Piglet Model. ASAIO Journal, 2015, 61, 196-201.	1.6	11
52	Intraplatelet reactive oxygen species, mitochondrial damage and platelet apoptosis augment non-surgical bleeding in heart failure patients supported by continuous-flow left ventricular assist device. Platelets, 2015, 26, 536-544.	2.3	19
53	Pim-1 Kinase Cooperates with Serum Signals Supporting Mesenchymal Stem Cell Propagation. Cells Tissues Organs, 2014, 199, 140-149.	2.3	7
54	Right ventricular unloading and respiratory support with a wearable artificial pump-lung in an ovine model. Journal of Heart and Lung Transplantation, 2014, 33, 857-863.	0.6	2

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55	Blood-aggregating hydrogel particles for use as a hemostatic agent. Acta Biomaterialia, 2014, 10, 701-708.	8.3	130
56	Systemic Inflammatory Response Syndrome after Contentious-Flow Left Ventricular Assist Device Implantation: Change in Platelet Mitochondrial Membrane Potential. Journal of Cardiac Failure, 2014, 20, S89.	1.7	0
57	Platelet glycoprotein Ibî± ectodomain shedding and non-surgical bleeding in heart failure patients supported by continuous-flow left ventricular assist devices. Journal of Heart and Lung Transplantation, 2014, 33, 71-79.	0.6	43
58	Multiscale Characterization of Impact of Infarct Size on Myocardial Remodeling in an Ovine Infarct Model. Cells Tissues Organs, 2014, 200, 349-362.	2.3	2
59	Pim-1 mediated signaling during the process of cardiac remodeling following myocardial infarction in ovine hearts. Journal of Molecular and Cellular Cardiology, 2013, 63, 89-97.	1.9	5
60	Regional imbalanced activation of the calcineurin/BAD apoptotic pathway and the PI3K/Akt survival pathway after myocardial infarction. International Journal of Cardiology, 2013, 166, 158-165.	1.7	13
61	Comparison and Experimental Validation of Fluid Dynamic Numerical Models for a Clinical Ventricular Assist Device. Artificial Organs, 2013, 37, 380-389.	1.9	48
62	Prophylactic amiodarone and lidocaine improve survival in an ovine model of large size myocardial infarction. Journal of Surgical Research, 2013, 185, 152-158.	1.6	13
63	Short-Term Mechanical Unloading With Left Ventricular Assist Devices After Acute Myocardial Infarction Conserves Calcium Cycling and Improves Heart Function. JACC: Cardiovascular Interventions, 2013, 6, 406-415.	2.9	31
64	Biocompatibility Assessment of a Longâ€Term Wearable Artificial Pumpâ€Lung in Sheep. Artificial Organs, 2013, 37, 678-688.	1.9	19
65	Pre-clinical evaluation of the infant Jarvik 2000 heart in a neonate piglet model. Journal of Heart and Lung Transplantation, 2013, 32, 112-119.	0.6	32
66	Computational Study of the Blood Flow in Three Types of 3D Hollow Fiber Membrane Bundles. Journal of Biomechanical Engineering, 2013, 135, 121009.	1.3	19
67	Initial Experience with a Juvenile Sheep Model for Evaluation of the Pediatric Intracorporeal Ventricular Assist Services. ASAIO Journal, 2013, 59, 75-80.	1.6	7
68	In vitroandin vivoevaluation of polymer hydrogels for hemorrhage control. Journal of Biomaterials Science, Polymer Edition, 2013, 24, 1781-1793.	3.5	3
69	Ex Vivo Lung Evaluation of Prearrest Heparinization in Donation After Cardiac Death. Annals of Surgery, 2013, 257, 534-541.	4.2	29
70	Oxidative Stress, DNA Damage and Repair in Heart Failure Patients after Implantation of Continuous Flow Left Ventricular Assist Devices. International Journal of Medical Sciences, 2013, 10, 883-893.	2.5	36
71	Mesenchymal Stem Cell Transplantation Improves Regional Cardiac Remodeling Following Ovine Infarction. Stem Cells Translational Medicine, 2012, 1, 685-695.	3.3	34
72	Evaluation of Eulerian and Lagrangian Models for Hemolysis Estimation. ASAIO Journal, 2012, 58, 363-372.	1.6	148

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73	Advanced Surface Modifications for Blood-Contacting Surfaces of Medical Devices. International Journal of Biomaterials, 2012, 2012, 1-2.	2.4	1
74	A Quantitative Comparison of Mechanical Blood Damage Parameters in Rotary Ventricular Assist Devices: Shear Stress, Exposure Time and Hemolysis Index. Journal of Biomechanical Engineering, 2012, 134, 081002.	1.3	262
75	Design Optimization of a Wearable Artificial Pump-Lung Device With Computational Modeling. Journal of Medical Devices, Transactions of the ASME, 2012, 6, .	0.7	14
76	Computational Modelâ€Based Design of a Wearable Artificial Pumpâ€Lung for Cardiopulmonary/Respiratory Support. Artificial Organs, 2012, 36, 387-399.	1.9	23
77	A novel wearable pump-lung device: In vitro and acute in vivo study. Journal of Heart and Lung Transplantation, 2012, 31, 101-105.	0.6	17
78	Experimental Validation of Fluid Dynamic Numerical Models in Blood Pump Simulation. , 2012, , .		0
79	Thirty-Day In-Vivo Performance of a Wearable Artificial Pump-Lung for Ambulatory Respiratory Support. Annals of Thoracic Surgery, 2012, 93, 274-281.	1.3	32
80	Study of Flow-Induced Hemolysis Using Novel Couette-Type Blood-Shearing Devices. Artificial Organs, 2011, 35, 1180-1186.	1.9	141
81	Ambulatory veno-venous extracorporeal membrane oxygenation: Innovation and pitfalls. Journal of Thoracic and Cardiovascular Surgery, 2011, 142, 755-761.	0.8	117
82	Computational Fluid Dynamics and Experimental Characterization of the Pediatric Pump-Lung. Cardiovascular Engineering and Technology, 2011, 2, 276-287.	1.6	14
83	The use of computational fluid dynamics in the development of ventricular assist devices. Medical Engineering and Physics, 2011, 33, 263-280.	1.7	204
84	Differences in Shear Stress, Residence Time and Estimates of Hemolysis Between Different Ventricular Assist Devices. , 2011, , .		0
85	Analysis of Infarct Size on Myocardial Infarction Remodeling. , 2011, , .		0
86	The Effect of Impeller Position on CFD Calculations of Blood Flow in Magnetically Levitated Centrifugal Blood Pumps. , 2010, , .		5
87	Micro-scale modeling of flow and oxygen transfer in hollow-fiber membrane bundle. Journal of Membrane Science, 2010, 362, 172-183.	8.2	36
88	Computational Characterization of Flow and Hemolytic Performance of the UltraMag Blood Pump for Circulatory Support. Artificial Organs, 2010, 34, 1099-1113.	1.9	78
89	In Vivo Experience of the Child-Size Pediatric Jarvik 2000 Heart: Update. ASAIO Journal, 2010, 56, 369-376.	1.6	35
90	Computational Fluid Dynamics Analysis of Thrombosis Potential in Left Ventricular Assist Device Drainage Cannulae. ASAIO Journal, 2010, 56, 157-163.	1.6	45

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91	Design Optimization of a Wearable Artificial Pump-Lung Device With Computational Modeling. , 2010, , .		0
92	FVII Dependent Coagulation Activation in Citrated Plasma by Polymer Hydrogels. Biomacromolecules, 2010, 11, 3248-3255.	5.4	9
93	Early Remodeling Strain Levels Can Predict the Progression of Remodeling of the Left Ventricle Post Myocardial Infarction. , 2010, , .		0
94	Functional and Biocompatibility Performances of an Integrated Maglev Pumpâ€Oxygenator. Artificial Organs, 2009, 33, 36-45.	1.9	24
95	Computational Design and In Vitro Characterization of an Integrated Maglev Pumpâ€Oxygenator. Artificial Organs, 2009, 33, 805-817.	1.9	28
96	Drag reducing polymers improve tissue perfusion via modification of the RBC traffic in microvessels. Biorheology, 2009, 46, 281-292.	0.4	40
97	Computational Analysis of a Wearable Artificial Pump Lung Device in Terms of Rotor/Stator Interactions. , 2009, , .		0
98	Bioengineering Quantification of Left Ventricular Remodeling Following Myocardial Infarction. , 2009, , .		0
99	Regional remodeling strain and its association with myocardial apoptosis after myocardial infarction in an ovine model. Journal of Thoracic and Cardiovascular Surgery, 2008, 135, 991-998.e2.	0.8	27
100	CFD Assisted Design of a Wearable Artificial Pump Lung Device. , 2008, , .		0
101	3D Flow Modeling and Blood Damage Characterization of the UltraMagâ„¢ Blood Pump. , 2008, , .		0
102	Strain Mapping of LV Myocardium and its Correlation With Activation of Apoptotic Molecular Pathways Post Infarction. , 2008, , .		0
103	Optimization of a Miniature Maglev Ventricular Assist Device for Pediatric Circulatory Support. ASAIO Journal, 2007, 53, 23-31.	1.6	33
104	Early In Vivo Experience With the Pediatric Jarvik 2000 Heart. ASAIO Journal, 2007, 53, 374-378.	1.6	32
105	Characterization of membrane blood oxygenation devices using computational fluid dynamics. Journal of Membrane Science, 2007, 288, 268-279.	8.2	60
106	Strain related changes in regional myocardial cyclin-dependent kinase (Cdk) inhibitor protein, p21 post-myocardial infarction in ovine model. Journal of the American College of Surgeons, 2007, 205, S22.	0.5	0
107	COMPENSATORY HEMODYNAMIC AND BIOLOGIC RESPONSES TO PEDIATRIC CIRCULATORY SUPPORT IN LAMBS. ASAIO Journal, 2006, 52, 47A.	1.6	0
108	ESTIMATION OF FLOW-INDUCED BLOOD DAMAGE IN BIOMEDICAL DEVICES. ASAIO Journal, 2006, 52, 11A.	1.6	0

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109	CHRONIC IN-VIVO HEMODYNAMIC STUDY OF THE PEDIATRIC JARVIK 2000 HEART. ASAIO Journal, 2006, 52, 50A.	1.6	0
110	Computational and Experimental Evaluation of the Fluid Dynamics and Hemocompatibility of the CentriMag Blood Pump. Artificial Organs, 2006, 30, 168-177.	1.9	124
111	Regional systolic and remodeling strain differences during cardiac remodeling. Journal of the American College of Surgeons, 2006, 203, S21.	0.5	0
112	Strain-related regional alterations of calcium-handling proteins in myocardial remodeling. Journal of Thoracic and Cardiovascular Surgery, 2006, 132, 900-908.	0.8	10
113	Microscopic investigation of erythrocyte deformation dynamics. Biorheology, 2006, 43, 747-65.	0.4	36
114	REGIONAL SERCA2a PROTEIN EXPRESSION IN THE POST-MI MODEL OF HEART FAILURE. ASAIO Journal, 2005, 51, 29A.	1.6	0
115	MYOCARDIAL STRAIN MAP OF REMODELING. ASAIO Journal, 2005, 51, 29A.	1.6	0
116	Progress toward an ambulatory pump-lung. Journal of Thoracic and Cardiovascular Surgery, 2005, 130, 973-978.	0.8	20
117	Effects of Left Ventricular Assist Device Support and Outflow Graft Location Upon Aortic Blood Flow. ASAIO Journal, 2004, 50, 432-437.	1.6	31
118	Computational Fluid Dynamics Analysis of a Maglev Centrifugal Left Ventricular Assist Device. Artificial Organs, 2004, 28, 874-880.	1.9	24
119	Design and Hydrodynamic Evaluation of a Novel Pulsatile Bioreactor for Biologically Active Heart Valves. Annals of Biomedical Engineering, 2004, 32, 1039-1049.	2.5	93
120	Smooth muscle cell hypertrophy of renal cortex arteries with chronic continuous flow left ventricular assist. Annals of Thoracic Surgery, 2003, 75, 178-183.	1.3	62
121	Effects of Continuous Flow Left Ventricular Assist Device Support on Skin Tissue Microcirculation and Aortic Hemodynamics. ASAIO Journal, 2003, 49, 103-107.	1.6	17
122	Ventricular Assist Devices: Current Status and Future Perspective. , 2003, , 197-231.		0
123	EFFECT OF DRAG REDUCING POLYMERS (DRPs) ON RED BLOOD CELL (RBC) FILTERABILITY. ASAIO Journal, 2003, 49, 200.	1.6	0
124	ALTERED AORTIC HEMODYNAMICS WITH CONTINUOUS FLOW VAD SUPPORT. ASAIO Journal, 2002, 48, 126.	1.6	0
125	Investigation of fluid dynamics within a miniature mixed flow blood pump. Experiments in Fluids, 2001, 31, 615-629.	2.4	17
126	Computational Fluid Dynamics as a Development Tool for Rotary Blood Pumps. Artificial Organs, 2001, 25, 336-340.	1.9	104

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127	VISUALIZATION OF WALL SHEAR STRESS IN BLOOD-WETTED ARTIFICIAL ORGANS USING NEW PHOTOCHROMIC LIQUID CRYSTAL SENSOR. ASAIO Journal, 2001, 47, 174.	1.6	0
128	Fluid Dynamic Characterization of Operating Conditions for Continuous Flow Blood Pumps. ASAIO Journal, 1999, 45, 442-449.	1.6	43
129	Progress on Development of the Nimbusâ€“University of Pittsburgh Axial Flow Left Ventricular Assist System. ASAIO Journal, 1998, 44, M521-M524.	1.6	12
130	Novel Ventricular Apical Cannula: In Vitro Evaluation Using Transparent, Compliant Ventricular Casts. ASAIO Journal, 1998, 44, M691-M695.	1.6	10
131	Induction of Ventricular Collapse by an Axial Flow Blood Pump. ASAIO Journal, 1998, 44, M685-M690.	1.6	21
132	Continued Development of the Nimbus/University of Pittsburgh (UOP) Axial Flow Left Ventricular Assist System. ASAIO Journal, 1997, 43, M567.	1.6	14