Mark D Handschumacher

List of Publications by Year in Descending Order

82 papers	10,403 citations	45 h-index	83 g-index
83 ext. papers	12,034 ext. citations	8.5 avg, IF	5.41 L-index

#	Paper	IF	Citations
82	Attenuated Mitral Leaflet Enlargement Contributes to Functional Mitral Regurgitation After Myocardial Infarction. *Journal of the American College of Cardiology*, **2020**, 75, 395-405	15.1	16
81	Left atrial cross-sectional area is a novel measure of atrial shape associated with cardioembolic strokes. *Heart*, **2020**, 106, 1176-1182	5.1	2
80	Mechanical effects of MitraClip on leaflet stress and myocardial strain in functional mitral regurgitation - A finite element modeling study. *PLoS ONE*, **2019**, 14, e0223472	3.7	13
79	Mitral Valve Adaptation to Isolated Annular Dilation: Insights Into the Mechanism of Atrial Functional Mitral Regurgitation. *JACC: Cardiovascular Imaging*, **2019**, 12, 665-677	8.4	52
78	Contraction Timing Patterns in Patients Treated for Breast Cancer Before and After Anthracyclines Therapy. *Journal of the American Society of Echocardiography*, **2017**, 30, 454-460	5.8	8
77	Mitral Leaflet Changes Following Myocardial Infarction: Clinical Evidence for Maladaptive Valvular Remodeling. *Circulation: Cardiovascular Imaging*, **2017**, 10,	3.9	24
76	Acute Leukemia is Associated with Cardiac Alterations before Chemotherapy. *Journal of the American Society of Echocardiography*, **2017**, 30, 1111-1118	5.8	18
75	In vivo assessment of aortic root geometry in normal controls using 3D analysis of computed tomography. *European Heart Journal Cardiovascular Imaging*, **2017**, 18, 780-786	4.1	9
74	Effect of Losartan on Mitral Valve Changes After Myocardial Infarction. *Journal of the American College of Cardiology*, **2017**, 70, 1232-1244	15.1	55
73	Myocardial Infarction Alters Adaptation of the Tethered Mitral Valve. *Journal of the American College of Cardiology*, **2016**, 67, 275-87	15.1	55
72	Mitral valve disease--morphology and mechanisms. *Nature Reviews Cardiology*, **2015**, 12, 689-710	14.8	172
71	Leaflet area as a determinant of tricuspid regurgitation severity in patients with pulmonary hypertension. *Circulation: Cardiovascular Imaging*, **2015**, 8,	3.9	30
70	Efficacy of polymer injection for ischemic mitral regurgitation: persistent reduction of mitral regurgitation and attenuation of left ventricular remodeling. *JACC: Cardiovascular Interventions*, **2015**, 8, 355-363	5	7
69	The echo score revisited: Impact of incorporating commissural morphology and leaflet displacement to the prediction of outcome for patients undergoing percutaneous mitral valvuloplasty. *Circulation*, **2014**, 129, 886-95	16.7	56
68	Basic mechanisms of mitral regurgitation. *Canadian Journal of Cardiology*, **2014**, 30, 971-81	3.8	40
67	Aortic valve adaptation to aortic root dilatation: insights into the mechanism of functional aortic regurgitation from 3-dimensional cardiac computed tomography. *Circulation: Cardiovascular Imaging*, **2014**, 7, 828-35	3.9	31
66	Role of LA shape in predicting embolic cerebrovascular events in mitral stenosis: mechanistic insights from 3D echocardiography. *JACC: Cardiovascular Imaging*, **2014**, 7, 453-61	8.4	18

65	Mechanisms of functional mitral regurgitation in ischemic cardiomyopathy determined by transesophageal echocardiography (from the Surgical Treatment for Ischemic Heart Failure Trial). *American Journal of Cardiology*, **2013**, 112, 1812-8	3	24
64	Mitral valve enlargement in chronic aortic regurgitation as a compensatory mechanism to prevent functional mitral regurgitation in the dilated left ventricle. *Journal of the American College of Cardiology*, **2013**, 61, 1809-16	15.1	55
63	Assessment of mitral valve adaptation with gated cardiac computed tomography: validation with three-dimensional echocardiography and mechanistic insight to functional mitral regurgitation. *Circulation: Cardiovascular Imaging*, **2013**, 6, 784-9	3.9	48
62	Late repair of ischemic mitral regurgitation does not prevent left ventricular remodeling: importance of timing for beneficial repair. *Circulation*, **2013**, 128, S248-52	16.7	31
61	Comprehensive annular and subvalvular repair of chronic ischemic mitral regurgitation improves long-term results with the least ventricular remodeling. *Circulation*, **2012**, 126, 2720-7	16.7	26
60	Persistence of mitral regurgitation following ring annuloplasty: is the papillary muscle outside or inside the ring?. *Journal of Heart Valve Disease*, **2012**, 21, 218-24		9
59	Impact of mitral regurgitation on exercise capacity and clinical outcomes in patients with ischemic left ventricular dysfunction. *American Journal of Cardiology*, **2011**, 108, 1714-20	3	18
58	Mitral regurgitation after anteroapical myocardial infarction: new mechanistic insights. *Circulation*, **2011**, 123, 1529-36	16.7	28
57	Polymer injection therapy to reverse remodel the papillary muscles: efficacy in reducing mitral regurgitation in a chronic ischemic model. *Circulation: Cardiovascular Interventions*, **2010**, 3, 499-505	6	14
56	In vivo measurement of mitral leaflet surface area and subvalvular geometry in patients with asymmetrical septal hypertrophy: insights into the mechanism of outflow tract obstruction. *Circulation*, **2010**, 122, 1298-307	16.7	63
55	Relief of mitral leaflet tethering following chronic myocardial infarction by chordal cutting diminishes left ventricular remodeling. *Circulation: Cardiovascular Imaging*, **2010**, 3, 679-86	3.9	26
54	Gene delivery of sarcoplasmic reticulum calcium ATPase inhibits ventricular remodeling in ischemic mitral regurgitation. *Circulation: Heart Failure*, **2010**, 3, 627-34	7.6	54
53	Guidelines for the echocardiographic assessment of the right heart in adults: a report from the American Society of Echocardiography endorsed by the European Association of Echocardiography, a registered branch of the European Society of Cardiology, and the Canadian Society of Echocardiography. *Journal of the American Society of Echocardiography*, **2010**, 23, 685-713; quiz 786-8	5.8	4444
52	Mechanism of decrease in mitral regurgitation after cardiac resynchronization therapy: optimization of the force-balance relationship. *Circulation: Cardiovascular Imaging*, **2009**, 2, 444-50	3.9	52
51	Active adaptation of the tethered mitral valve: insights into a compensatory mechanism for functional mitral regurgitation. *Circulation*, **2009**, 120, 334-42	16.7	198
50	Mitral leaflet adaptation to ventricular remodeling: prospective changes in a model of ischemic mitral regurgitation. *Circulation*, **2009**, 120, S99-103	16.7	88
49	Direct measurement of vena contracta area by real-time 3-dimensional echocardiography for assessing severity of mitral regurgitation. *American Journal of Cardiology*, **2009**, 104, 978-83	3	91
48	Assessment of right ventricular function by real-time three-dimensional echocardiography improves accuracy and decreases interobserver variability compared with conventional two-dimensional views. *European Journal of Echocardiography*, **2009**, 10, 619-24		23

47	Mitral regurgitation augments post-myocardial infarction remodeling failure of hypertrophic compensation. *Journal of the American College of Cardiology*, **2008**, 51, 476-86	15.1	60
46	Quantitative analysis of intraventricular dyssynchrony using wall thickness by multidetector computed tomography. *JACC: Cardiovascular Imaging*, **2008**, 1, 772-81	8.4	46
45	Estimation of radial strain and rotation using a new algorithm based on speckle tracking. *Journal of the American Society of Echocardiography*, **2008**, 21, 1168-74	5.8	14
44	Mitral leaflet adaptation to ventricular remodeling: occurrence and adequacy in patients with functional mitral regurgitation. *Circulation*, **2008**, 118, 845-52	16.7	190
43	A novel approach for reducing ischemic mitral regurgitation by injection of a polymer to reverse remodel and reposition displaced papillary muscles. *Circulation*, **2008**, 118, S263-9	16.7	28
42	Proximal flow convergence region as assessed by real-time 3-dimensional echocardiography: challenging the hemispheric assumption. *Journal of the American Society of Echocardiography*, **2007**, 20, 389-96	5.8	117
41	Pseudodyskinesis of the inferior left ventricular wall: recognizing an echocardiographic mimic of myocardial infarction. *Journal of the American Society of Echocardiography*, **2007**, 20, 1374-9	5.8	6
40	Early repair of moderate ischemic mitral regurgitation reverses left ventricular remodeling: a functional and molecular study. *Circulation*, **2007**, 116, I288-93	16.7	45
39	Persistent reduction of ischemic mitral regurgitation by papillary muscle repositioning: structural stabilization of the papillary muscle-ventricular wall complex. *Circulation*, **2007**, 116, I259-63	16.7	34
38	Geometric determinants of functional tricuspid regurgitation: insights from 3-dimensional echocardiography. *Circulation*, **2006**, 114, 143-9	16.7	267
37	The prognostic value of post-exercise blood pressure reduction in patients with hypertensive response during exercise stress test. *International Journal of Cardiology*, **2006**, 111, 352-7	3.2	10
36	Quantitative assessment of regional myocardial function in mice by tissue Doppler imaging: comparison with hemodynamics and sonomicrometry. *Circulation*, **2005**, 111, 2611-6	16.7	84
35	Usefulness of three-dimensionally guided assessment of mitral stenosis using matrix-array ultrasound. *American Journal of Cardiology*, **2005**, 96, 1151-6	3	53
34	Illusion of contraction from out-of-plane translation: can Doppler tissue velocities resolve it?. *Journal of the American Society of Echocardiography*, **2003**, 16, 832-40	5.8	3
33	Leaflet concavity: a rapid visual clue to the presence and mechanism of functional mitral regurgitation. *Journal of the American Society of Echocardiography*, **2003**, 16, 1301-8	5.8	47
32	Mechanistic insights into functional mitral regurgitation. *Current Cardiology Reports*, **2002**, 4, 125-9	4.2	72
31	Reverse ventricular remodeling reduces ischemic mitral regurgitation: echo-guided device application in the beating heart. *Circulation*, **2002**, 106, 2594-600	16.7	128
30	Effect of three-dimensional valve shape on the hemodynamics of aortic stenosis: three-dimensional echocardiographic stereolithography and patient studies. *Journal of the American College of Cardiology*, **2002**, 40, 1479-86	15.1	95

29	Effect of destructive pulse duration on the detection of myocardial perfusion in myocardial contrast echocardiography: In vitro and in vivo observations. *Journal of the American Society of Echocardiography*, **2002**, 15, 1440-7	5.8	12
28	Chordal cutting: a new therapeutic approach for ischemic mitral regurgitation. *Circulation*, **2001**, 104, 1958-63	16.7	231
27	Paradoxic decrease in ischemic mitral regurgitation with papillary muscle dysfunction: insights from three-dimensional and contrast echocardiography with strain rate measurement. *Circulation*, **2001**, 104, 1952-7	16.7	93
26	Mechanism of ischemic mitral regurgitation with segmental left ventricular dysfunction: three-dimensional echocardiographic studies in models of acute and chronic progressive regurgitation. *Journal of the American College of Cardiology*, **2001**, 37, 641-8	15.1	252
25	The power-velocity integral at the vena contracta: A new method for direct quantification of regurgitant volume flow. *Circulation*, **2000**, 102, 1053-61	16.7	31
24	Design of a new surgical approach for ventricular remodeling to relieve ischemic mitral regurgitation: insights from 3-dimensional echocardiography. *Circulation*, **2000**, 101, 2756-63	16.7	185
23	Mechanism of dynamic regurgitant orifice area variation in functional mitral regurgitation: physiologic insights from the proximal flow convergence technique. *Journal of the American College of Cardiology*, **1999**, 33, 538-45	15.1	120
22	Insights from three-dimensional echocardiography into the mechanism of functional mitral regurgitation: direct in vivo demonstration of altered leaflet tethering geometry. *Circulation*, **1997**, 96, 1999-2008	16.7	387
21	Three-dimensional echocardiography: the influence of number of component images on accuracy of left ventricular volume quantitation. *Journal of the American Society of Echocardiography*, **1996**, 9, 147-55	5.8	32
20	Quantitative three-dimensional reconstruction of left ventricular volume with complete borders detected by acoustic quantification underestimates volume. *American Heart Journal*, **1996**, 131, 553-9	4.9	22
19	Insights from three-dimensional echocardiographic laser stereolithography. Effect of leaflet funnel geometry on the coefficient of orifice contraction, pressure loss, and the Gorlin formula in mitral stenosis. *Circulation*, **1996**, 94, 452-9	16.7	28
18	Three-dimensional echocardiography improves noninvasive assessment of left ventricular volume and performance. *American Heart Journal*, **1995**, 130, 812-22	4.9	53
17	Quantitative three-dimensional reconstruction of aneurysmal left ventricles. In vitro and in vivo validation. *Circulation*, **1995**, 91, 222-30	16.7	59
16	Three-dimensional echocardiography. In vivo validation for right ventricular volume and function. *Circulation*, **1994**, 89, 2342-50	16.7	129
15	Three-dimensional reconstruction of ventricular septal defects: validation studies and in vivo feasibility. *Journal of the American College of Cardiology*, **1994**, 23, 201-8	15.1	47
14	Quantification of pericardial effusions by three-dimensional echocardiography. *Journal of the American College of Cardiology*, **1994**, 24, 254-9	15.1	20
13	Three-dimensional echocardiography: in vivo validation for right ventricular free wall mass as an index of hypertrophy. *Journal of the American College of Cardiology*, **1994**, 23, 1715-22	15.1	35
12	Three-dimensional echocardiographic reconstruction of right ventricular volume: in vitro comparison with two-dimensional methods. *Journal of the American Society of Echocardiography*, **1994**, 7, 150-8	5.8	55

11	A new integrated system for three-dimensional echocardiographic reconstruction: development and validation for ventricular volume with application in human subjects. *Journal of the American College of Cardiology*, **1993**, 21, 743-53	15.1	136
10	Three-dimensional echocardiography. In vivo validation for left ventricular volume and function. *Circulation*, **1993**, 88, 1715-23	16.7	134
9	Three-dimensional echocardiography: techniques and applications. *American Journal of Cardiology*, **1992**, 69, 121H-130H; discussion 131H-134H	3	71
8	Three-dimensional echocardiography: A new method for real-time integration and computer storage of images and positional data in high volume. *Journal of the American College of Cardiology*, **1991**, 17, A3	15.1	2
7	Three-dimensional echocardiographic reconstruction of the mitral valve, with implications for the diagnosis of mitral valve prolapse. *Circulation*, **1989**, 80, 589-98	16.7	443
6	Characterization of five epitopes of human renin from a computer model. *Biochemistry*, **1988**, 27, 156-64	3.2	12
5	Protein antigenicity: a static surface property. *Trends in Immunology*, **1987**, 8, 26-31		74
4	Antigenic determinants in proteins coincide with surface regions accessible to large probes (antibody domains). *Proceedings of the National Academy of Sciences of the United States of America*, **1986**, 83, 226-30	11.5	251
3	Location of antigenic epitopes on antibody molecules. *Journal of Molecular Biology*, **1986**, 189, 715-21	6.5	56
2	Refined structure of alkaline phosphatase from Escherichia coli at 2.8 A resolution. *Journal of Molecular Biology*, **1985**, 186, 417-33	6.5	211
1	Crystallographic observations of the metal ion triple in the active site region of alkaline phosphatase. *Journal of Molecular Biology*, **1983**, 170, 575-81	6.5	25