


Curriculum Vitae

Personal Information			
Title	Dr.		
Name	Hyungkyu Huh		
Degree	PhD		
Country	Korea, Republic of		
Affiliation	K-Medihub		
			
		Educational Background	
		Pohang University of Science and Technology (POSTECH), Pohang, Korea. Ph.D, Mechanical Engineering, 2017	
		Sungkyunkwan University (SKKU), Seoul, Korea. BS, Mechanical Engineering, 2011	
		Professional Career	
Asan Medical Center, Seoul, Korea, 2017 Post-doc, department of radiology			
Northwestern University Feinberg Medical School, Chicago, IL, USA, 2017–2018 Clinical research fellow, department of radiology and cardiology			
Daegu-Gyungbuk Medical Innovation Foundation (K-Medi hub), Daegu, Korea, 2018– Senior researcher, department of advanced technology			
Research Field			
Daegu-Gyungbuk Medical Innovation Foundation (K-Medi hub) <ul style="list-style-type: none"> - Mitral valve regurgitation flow quantification using intra-cardiac 4D flow MRI - Optimization of hemodynamic parameters using in-vitro phantom and in-vivo 4D flow MR scan - 3D flow quantification of vessels and tissues using MRI (Renal, hepatic, AVF) - Federated learning based vessel segmentation for 4D flow MRI 			
Northwestern University, Feinberg Medical School <ul style="list-style-type: none"> - Hemodynamic comparison between color Doppler Echocardiography and 4D flow MRI - Development of healthy Atlases using 4D flow MRI - Development of 3D velocity visualization using color Doppler Echocardiography 			
Pohang University of Science and Technology (POSTECH) <ul style="list-style-type: none"> - Experimental analysis of non-Newtonian characteristics of the blood flow - Fluid-dynamic effect of a post-stenotic region on the dynamics of T cells on ECs - Experimental analysis of the flow characteristics on tandem-stenosed vessels 			
Main Scientific Publications			
<i>Main Achievements (10 max)</i>			

Park S, Kwon M, Nam H, **Huh H**. Interpolation time-optimized aortic pulse wave velocity estimation by 4D flow MRI. *Scientific Reports*. 2023 Sep 30;13(1):16484.

Huh H, Lee J, Kinno M, Markl M, Thomas JD, Barker AJ. Two wrongs sometimes do make a right: errors in aortic valve stenosis assessment by same-day Doppler echocardiography and 4D flow MRI. *The International Journal of Cardiovascular Imaging*. 2022 Aug;38(8):1815-23.

Lee GH, Heo W, Lee Y, Kim TH, **Huh H**, Song SW, Ha H. Fluid–structure interaction simulation of visceral perfusion and impact of different cannulation methods on aortic dissection. *Scientific Reports*. 2023 Jan 20;13(1):1116

Chen V, Barker AJ, Golan R, Scott MB, **Huh H**, Wei Q, Sojoudi A, Markl M. Effect of age and sex on fully automated deep learning assessment of left ventricular function, volumes, and contours in cardiac magnetic resonance imaging. *The International Journal of Cardiovascular Imaging*. 2021 Dec;37(12):3539-47.

Dh Y, Heo CM, Gwoo S, **Huh H**, Park S, Heo W. Effect of flow reduction surgery in a patient with high flow arteriovenous fistula with aortic dissection using 4D flow magnetic resonance imaging: A case report. *The Journal of Vascular Access*. 2023 Dec 23:11297298231209778.

Lee J, Mitter SS, Van Assche L, **Huh H**, Wagner GJ, Wu E, Barker AJ, Markl M, Thomas JD. Impact of assuming a circular orifice on flow error through elliptical regurgitant orifices: computational fluid dynamics and in vitro analysis of proximal flow convergence. *The International Journal of Cardiovascular Imaging*. 2023 Feb;39(2):307-18.

Kim D, **Huh HK**, Ha H. In vitro Assessment of Aortic Regurgitation Using Four-Dimensional Flow Magnetic Resonance Imaging. *J Vis Exp*. 2022 Feb 25;(180). doi: 10.3791/63491. PMID: 35285831.

Lee J, **Huh H**, Scott MB, Elbaz MS, Puthumana JJ, McCarthy P, Malaisrie SC, Markl M, Thomas JD, Barker AJ. Valvular and ascending aortic hemodynamics of the On-X aortic valved conduit by same-day echocardiography and 4D flow MRI. *Frontiers in Cardiovascular Medicine*. 2023;10.

Ma LE, Markl M, Chow K, **Huh H**, Forman C, Vali A, Greiser A, Carr J, Schnell S, Barker AJ, Jin N. Aortic 4D flow MRI in 2 minutes using compressed sensing, respiratory controlled adaptive k-space reordering, and inline reconstruction. *Magnetic resonance in medicine*. 2019 Jun;81(6):3675-90.

Scott MB, **Huh H**, van Ooij P, Chen V, Herrera B, Elbaz M, McCarthy P, Malaisrie SC, Carr J, Fedak PW, Markl M. Impact of age, sex, and global function on normal aortic hemodynamics. *Magnetic resonance in medicine*. 2020 Oct;84(4):2088-102.