
BIOGRAPHICAL SKETCH

NAME	POSITION TITLE		
Hsieh, Patrick C.H.	Research Fellow and Professor		
EDUCATIONS	DEGREE	YEAR(s)	FIELD OF STUDY
Kaohsiung Medical University, Taiwan	M.D.	1992	Medicine
University of Washington, Seattle, WA	Ph.D.	2003	Bioengineering
Harvard Medical School, Boston, MA	PDF	2006	Cardiovascular Science
Military Hospital, Tong-In, Taiwan	-	1994	Military Doctor
Chang-Gang Medical Center, Kaohsiung	-	1996	Resident in Surgery
National Taiwan University Hospital, Taipei	-	1998	Senior Resident in Cardiovascular Surgery
National Taiwan University Hospital, Taipei	-	1999	Chief Resident in Cardiovascular Surgery

Curent Positions

Research Fellow, Institute of Biomedical Sciences (IBMS), Academia Sinica, Taipei, Taiwan

Coordinator, Cardiovascular Division, IBMS, Academia Sinica, Taipei, Taiwan

Professor, Graduate Institute of Medical Genomics and Proteomics and Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan

Affiliate Attending Physician, Division of Cardiovascular Surgery, Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan

Visiting Professor, Department of Medicine and Stem Cell and Regenerative Medicine Center, University of Wisconsin School of Medicine and Public Health, Madison, WI

Affiliate Professor, Department of Bioengineering, University of Washington, Seattle, WA

Affiliate Professor, Graduate Institute of Clinical Medicine, National Cheng Kung University, Tainan, Taiwan

Honors and Awards (selected)

- 2017 TECO Award, TECO Technology Foundation, Taiwan
- 2017 World Leading Young Scientist, Society of Polymer Science, Japan
- 2016 Extramural grant award, National Health Research Institutes (NHRI), Taiwan
- 2015 Outstanding Research Award, Ministry of Science and Technology (MOST), Taiwan
- 2014 Chair in Biotechnology, Taiwan Bio-Development Foundation (TBF), Taiwan
- 2013 Best paper in 2012, National Cheng Kung University College of Medicine, Tainan, Taiwan
- 2013 International Fellow of American Heart Association (FAHA), Council on Basic Cardiovascular Sciences
- 2013 Top translational researcher in 2012, ranked top 1 in assistant/associate professors, *Nature Biotechnology*
- 2013 National Innovation Award, Institute of Biotechnology and Medicine Industry, Taiwan
- 2012 Outstanding Research Award, National Science Council, Taiwan
- 2012 Annual Conference Travel Award & Poster Competition Judge, International Society for Stem Cell Research, Yokohama, Japan
- 2011 National Innovation Award, Institute of Biotechnology and Medicine Industry, Taiwan
- 2010 Outstanding undergraduate researcher advisor award, National Science Council, Taiwan
- 2005 Finalist, Melvin L. Marcus Young Investigator Award in Cardiovascular Science, American Heart Association
- 2005 Finalist, Northwestern University School of Medicine Cardiovascular Young Investigators, Chicago, IL
- 2005 Poster award, Current Progress in Tissue Engineering and Regenerative Medicine, C.I.M.I.T. and Harvard Medical School, Boston, MA
- 2004~2006 Postdoctoral Fellowship, American Heart Association

Publications (selected from 74)

- Lundy DJ, Lee KJ, Peng IC, Hsu CH, Lin JH, Chen KH, Tien YW, Hsieh PC*. "Inducing a Transient Increase in Blood Brain Barrier Permeability for Improved Liposomal Drug Therapy of Glioblastoma Multiforme". *ACS Nano*; in press.
- Tang TW, Chen HC, Chen CY, Yen CY, Lin CJ, Prajnamitra RP, Chen LL, Ruan SC, Lin JH, Lin PJ, Lu HH, Kuo CW, Chang CM, Hall AD, Vivas EI, Shui JW, Chen P, Hacker TA, Rey FE, Kamp TJ, Hsieh PC*. "Loss of gut microbiota alters immune system composition and cripples post-infarction cardiac repair." *Circulation* 2018; in press.
- Hsu WT, Huang CY, Yen CY, Cheng AL, Hsieh PC*. "The HER2 inhibitor lapatinib potentiates doxorubicin-induced cardiotoxicity through iNOS signaling". *Theranostics* 2018;8:3176-3188.
- Hsieh PC*, Kamp TJ*. "To be young at heart". *Cell Stem Cell* 2018;22:475-476.
- Tsang TJ, Hsueh YC, Wei EI, Lundy DJ, Cheng B, Chen YT, Wang SS, Hsieh PC*. "Subcellular Localization of Survivin Determines Its Function in Cardiomyocytes". *Theranostics* 2017;7:4577-4590.

- Cheng YY, Yan YT, Lundy DJ, Lo AH, Wang YP, Ruan SC, Lin PJ, Hsieh PC*. “Reprogramming-derived gene cocktail increases cardiomyocyte proliferation for heart regeneration”. *EMBO Mol Med*. 2017;9:251-264.
- Wu PJ, Cheng B, Roffler SR*, Lundy DJ, Yen CY, Chen P, Lai JJ, Pun SH, Stayton PS, Hsieh PC*. “Reloadable multi-drug capturing delivery system for targeted ischemic disease treatment”. *Sci Transl Med*. 2016;8:365ra160.
- Cheng B, Toh EK, Chen KH, Chang YC, Hu CM, Wu HC, Chau LY, Chen P, Hsieh PC*. “Biomimicking platelet-monocyte interactions as a novel targeting strategy for heart healing” *Adv Healthc Mat*. 2016;5:2686-2697.
- Chang MY, Huang TT, Chen CH, Cheng B, Hwang SM, Hsieh PC*. “Injection of human cord blood cells with hyaluronan improves post-infarction cardiac repair in pigs.” *Stem Cells Transl Med*. 2016;5:56-66. (Cover story)
- Chen CY, Lee DS, Yan YT, Shen CN, Hwang SM, Lee ST, Hsieh PC*. “Bcl3 bridges LIF-STAT3 to Oct4 signaling in the maintenance of naïve pluripotency.” *Stem Cells* 2015;33:3468-3480.
- Chen KH, Lundy DJ, Toh EKW, Chen CH, Shih C, Chen P, Chang HC, Lai JJ, Stayton PS, Hoffman AS, Hsieh PC*. “Nanoparticle distribution during systemic inflammation is size-dependent and organ-specific”. *Nanoscale* 2015;7:15863-15872.
- Lee DS, Chen JY, Lundy DJ, Liu CH, Hwang SM, Pabon L, Shieh RC, Chen CC, Wu SN, Yang YT, Lee ST, Chiang PM, Chien S, Murry CE, Hsieh PC*. “Defined microRNAs induce aspects of maturation in mouse and human embryonic stem cell-derived cardiomyocytes”. *Cell Reports* 2015;12:1960-67. (Cover story)
- Wu JM, Hsueh YC, Ch’ang HU, Luo CY, Wu LW, Nakauchi H, Hsieh PC*. “Circulating cells contribute to cardiomyocyte regeneration after injury.” *Circ Res*. 2015;116:633-641. (One of the best 10 papers in *Circ Res* 2015)
- Hsueh YC, Wu JM, Yu CK, Wu KK, Hsieh PC*. “Prostaglandin E2 promotes post-infarction cardiomyocyte replenishment by endogenous stem cells.” *EMBO Mol Med*. 2014;6:496-503. (Journal highlight)
- Lai CY, Wu PR, Roffler SR, Lee ST, Hwang SM, Wang SS, Wang K, Hsieh PC*. “The clearance kinetics of biomaterials affects stem cell retention and therapeutic efficacy”. *Biomacromolecules* 2014;15:564-73.
- Liao WY, Li HJ, Chang MY, Tang AC, Hoffman AS, Hsieh PC*. Comprehensive characterizations of nanoparticle biodistribution following systemic injection in mice.” *Nanoscale*. 2013;5:11079-86.
- Chang MY, Yang YJ, Chang CH, Tang AC, Liao WY, Cheng FY, Yeh CS, Lai JJ, Stayton PS, Hsieh PC*. “Functionalized nanoparticles provide early cardioprotection after acute myocardial infarction.” *J Control Release*. 2013;170:287-294.
- Chen CH, Wang SS, Wei EI, Chu TU, Hsieh PC*. “Hyaluronan enhances bone marrow cell therapy for myocardial repair after infarction”. *Mol Ther*. 2013;21:670-679.
- Lin YD, Luo CY, Hu YN, Yeh ML, Hsueh YC, Tang MJ, Springer ML, Hsieh PC*. “Instructive nanofiber scaffolds with VEGF creates a microenvironment for arteriogenesis and cardiac repair.” *Sci Transl Med*. 2012; 4:146ra109.
- Tang AC, Chang MY, Tang ZC, Li HJ, Hwang GL, Hsieh PC*. “The treatment of acute thromboembolism in mice using heparin-conjugated carbon nanocapsules”. *ACS Nano* 2012; 6:6099-6107.
- Tang ZC, Liao WY, Tang AC, Tsai SJ, Hsieh PC*. “The enhancement of endothelial cell therapy for angiogenesis in hindlimb ischemia using hyaluronan.” *Biomaterials*. 2011;32:75-86.
- Lin YD, Yeh ML, Yang YJ, Tsai DC, Zhu TY, Shih YY, Chang MY, Liu YW, Tang ACL, Chen TY, Luo CY, Chang KC, Chen JH, Wu HL, Hung TK, Hsieh PC*. “Intramyocardial peptide nanofiber injection improves post-infarction ventricular remodeling and efficacy of bone marrow cell therapy in pigs.” *Circulation*. 2010;122:S132-S141.
- Cheng FY, Wang SP, Su CH, Tsai TL, Wu PC, Shieh DB, Chen JH, Hsieh PC*, Yeh CS*. “Stabilizer-free poly(lactide-co-glycolide) nanoparticles for multimodal biomedical probes.”. *Biomaterials*. 2008;29:2104-2112.
- Hsieh PC, Segers VFM, Davis ME, MacGillivray C, Gannon J, Molkentin JD, Robbins F, Lee RT*. “Evidence from a genetic fate-mapping study that stem cells refresh adult mammalian cardiomyocytes after injury”. *Nat Med*. 2007;13:970-974. (Cover story, journal highlight, reported by *Nature*, *Science*, *WSJ*, *US Newsweek*)
- Engel FB, Hsieh PC, Lee RT, Keating MT*. “FGF1/p38 MAP kinase inhibitor therapy induces cardiomyocyte mitosis, reduces scarring, and rescues function after myocardial infarction.” *Proc Natl Acad Sci U S A*. 2006;103:15546-15551.
- Hsieh PC, MacGillivray C, Gannon J, Cruz FU, Lee RT*. “Local Controlled Intramyocardial Delivery of PDGF Improves Post-Infarction Ventricular Function without Pulmonary Toxicity”. *Circulation*. 2006;114:637-644.
- Davis ME, Hsieh PC, Takahashi T, Song Q, Zhang S, Kamm RD, Grodzinsky AJ, Anversa P, Lee RT*. “Local Myocardial IGF-1 Delivery with Biotinylated Peptide Nanofibers Improves Cell Therapy for Myocardial Infarction.” *Proc Natl Acad Sci U S A*. 2006;103:8155-8160.
- Hsieh PC, Davis ME, Gannon J, MacGillivray C, Lee RT*. “Controlled Delivery of PDGF-BB for Myocardial Protection Using Injectable Self-Assembling Peptide Nanofibers”. *J Clin Invest*. 2006;116:237-248.
- Hsieh PC, Davis ME, Likowski LK, Lee RT*. “Endothelial-Cardiomyocyte Interactions in Cardiac Development and Repair.” *Annu Rev Physiol*. 2006;68:51-66.
- Davis ME, Hsieh PC, Grodzinsky AJ, Lee RT*. “Custom Design of the Cardiac Microenvironment with Biomaterials.” *Circ Res*. 2005;97:8-15.