
BIOGRAPHICAL SKETCH

NAME Paul M.L. Janssen	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME janssen10			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Utrecht University, Netherlands	M.S.	1987-1994	Medical Biology
Utrecht University, Netherlands	Ph.D.	1994-1997	Cardiac Physiology
Universities of Freiburg and Göttingen, Germany		1997-2000	Cardiac Physiology
Johns Hopkins University, Baltimore, USA		2000-2002	Cardiac Physiology

A. Positions and Honors.

Positions and Employment:

- 1991 – 1992 M.S. Student, Department of Medical Physiology and Sportsmedicine. Univ. Utrecht, NL.
1991 – 1992 M.S. Student, Synchrotron Radiation Source, Warrington, U.K.
1992 – 1993 M.S. Student, Rudolf Magnus Institute for Pharmacology, Univ. Utrecht, Utrecht, NL.
1993 Research Trainee, Dept. of Biomedical Engineering, Johns Hopkins Univ. Baltimore, MD, USA
1994 Visiting Researcher, First Dept. of Int. Med., Tohoku Univ., School of Med., Sendai, Japan.
1994 – 1997 Visiting Scholar, Dept. of Int. Med., Cardiol., Wake Forest Univ., Bowman Gray Sch. of Med., Winston-Salem, NC and Dept. of Physiol. and Biophys., Univ. of Illinois at Chicago, IL, USA
1997 – 2000 Post-Doc., Albert-Ludwigs Univ., Dept. of Cardiology, Freiburg and Georg-August Univ., Dept. of Cardiol. and Pneumol., Göttingen, Germany.
2000 – 2002 Research Associate, Inst. of Mol. Cardiobiology, Johns Hopkins Univ., Baltimore, MD, USA.
2002 – pres. Assist. Professor, Dept. Physiol. & Cell Biol., The Ohio State Univ., Columbus, OH, USA.
2007 – pres. Assist. Professor, Dept. Physiol. & Cell Biol. and Dept. of Internal Medicine, Division of Cardiovascular Medicine, The Ohio State University, Columbus, OH, USA.

Honors:

- 2007 Established Investigator, American Heart Association
2004-current Elected as Secretary/Treasurer of the Cardiovascular System Dynamics Society
2002 Best Poster Award, Cardiovascular System Dynamics Society
1998 Sagawa Young Investigator Award, Cardiovascular System Dynamics Society
1993 Research Award/Scholarship of the Netherlands Heart Foundation (NHS)
1993/94 Scholarship of the United Savings Bank Foundation (VSB-fonds)
1992 Conference-supportship of the Utrecht University Foundation (U-fonds)
1991 Medical Biology Student Honor Society

Professional Memberships:

- 2003-present Member, American Heart Association National Center, Study Section "Integrative Biology"
2000-present Member, International Society for Heart Research
1999-present Member, American Heart Association Basic Science Council
1999-present Scientific Council Member, European Society for Cardiology
1998-present Member, Cardiovascular Systems Dynamics Society
1994-present Member, American Physiological Society
1994-present Member, Biophysical Society

B. Selected peer-reviewed publications (Since 2002, out of 65 total)

- Hermann HP, Zeitz O, Lehnart SE, Keweloh B, Datz N, Hasenfuss G, Janssen PML. Potentiation of β -adrenergic inotropic response by pyruvate in failing human myocardium. *Cardiovasc Res.* 2002;53:116-123.
- Janssen PML, Lehnart SE, Zeitz O, Hasenfuss G, Prestle J, Darmer D, Holtz J, Schumann H. Load dependent induction of apoptosis in multicellular myocardial preparations. *Am J Physiol Heart Circ. Physiol.* 2002;282:349-356.
- Janssen PML, Stull LB, Marban E. Myofilament properties comprise the rate-limiting step for cardiac relaxation at physiological temperature in rat myocardium. *Am J Physiol Heart Circ. Physiol.* 2002;282:499-507.
- Hasenfuss G, Maier LS, Hermann HP, Lüers C, Hünlich M, Munk S, Zeitz O, Janssen PML, Pieske B. Influence of pyruvate on contractile performance and Ca^{2+} -cycling in Isolated failing human myocardium. *Circulation*, 2002;105:194-199.
- Zeitz O, Maass AE, Van Nguyen P, Hensmann G, Kogler H, Moeller K, Hasenfuss G, Janssen PML. Hydroxyl radical induced acute diastolic dysfunction is due to calcium overload via reverse mode $\text{Na}^+/\text{Ca}^{2+}$ exchange. *Circ. Res.*, 2002;90:988-995.
- Janssen PML, Schillinger W, Donahue JK, Zeitz O, Emami S, Lehnart SE, Weil J, Eschenhagen T, Hasenfuss G, Prestle J. Intracellular β -blockade; overexpression of $\text{G}\alpha_{i2}$ depresses the β -adrenergic response in intact myocardium. *Cardiovasc. Res.* 2002;55:300-308.
- Stull LB, Leppo MK, Marban E, and Janssen PML. Physiological determinants of contractile force generation and calcium handling in mouse myocardium. *J Mol Cell Cardiol.* 2002;34:1367-1376.
- van der Velden J, Papp Z, Boontje NM, Zaremba R, de Jong JW, Janssen PML, Hasenfuss G, Stienen GJM. The effect of myosin light chain 2 dephosphorylation on Ca^{2+} -sensitivity of force is enhanced in failing human hearts. *Cardiovasc. Res.* 2002;57:505-514.
- Janssen PML, Stull LB, Leppo MK, Altschuld RA, Marbán E. Selective contractile dysfunction of left, not right, ventricular myocardium in the spontaneous hypertensive heart failure (SHHF) rat. *Am J Physiol Heart Circ. Physiol.* 2003;284:772-778
- Schillinger W, Ohler A, emami S, Mueller F, Christians C, Janssen PML, Teucher N, Pieske B, Seidler T, Hasenfuss G. The functional effect of adenoviral $\text{Na}^+-\text{Ca}^{2+}$ exchanger overexpression in rabbit myocytes depends on the activity of the Na^+/K^+ ATPase. *Cardiovasc. Res.* 2003;57:996-1003.
- Takimoto E, Soergel DG, Janssen PML, Stull LB, Kass DA, Murphy AM. Frequency- and Afterload Dependent Cardiac Modulation In Vivo by Troponin I with Constitutively Active Protein Kinase A Phosphorylation Sites. *Circ. Res.* 2004;94:496-504.
- Rossmann EI, Petre RE, Chaudhary KW, Piacentino III V, Janssen PML, Gaughan JP, Houser SR, Margulies KB. Abnormal frequency-dependent responses represent the pathophysiologic signature of contractile failure in human myocardium. *JMCC.* 2004;36:33-42.
- Hermann HP, Arp J, Pieske B, Kogler H, Baron S, Janssen PML, Hasenfuss G. Improved systolic and diastolic myocardial function with intracoronary pyruvate in patients with congestive heart failure. *Eur. J. Heart Failure* 2004, 6;213-218.
- Palmer BM, Georgakopoulos D, Janssen PML, Wang Y, Alpert NR, Belardi DF, Harris SP, Moss RL, Burgon PG, Seidman CE, Seidman JG, Maughan DW, Kass DA. Role of cardiac myosin binding protein C in sustaining left ventricular systolic stiffening. *Circ Res.* 2004 May 14;94(9):1249-55.
- Most P, Pleger S, Volkers M, Heidt B, Boerries M, Weichenhan D, Löffler E, Janssen PML, Williams ML, Katus HA, Remppis A, Koch WJ. Cardiac adenoviral S1001A gene delivery rescues contractile function of failing myocardium. *J Clin Invest.* 2004;114:1550-1563.
- Babu GJ, Zheng Z, Natarajan P, Wheeler D, Janssen PML, Periasamy M. Overexpression of sarcolipin decreases myocyte contractility and calcium transient. *Cardiovasc Res.* 2005;65:177-186.
- Weisser-Thomas J, Dieterich E, Prestle J, Schmidt-Schweda S, Maier LS, Sumbilla C, Janssen PML, Pieske B. Effects of cell culture and adenovirus mediated LacZ and SERCA1 gene transfer on contractile behavior of failing human cardiomyocytes myocytes. *J Pharmacol Toxicol Methods.* 2005;51:91-103
- Janssen PML, Hiranandani N, Mays T, Rafael-Fortney. Utrophin deficiency worsens cardiac contractile

dysfunction present in dystrophin-deficient mdx mice *Am. J. Physiol. Heart Circ. Physiol.*, 2005;289:H2373-2378.

- Raman S, Kelley MA, Janssen PML. Effect of Muscle Dimensions on Trabecular Contractile Performance under Physiological Conditions. *Eur. J. Physiol.* 2006;451:625-630.
- Babu GJ, Bhupathy P, Petrashevskaya NN, Wang H, Raman S, Wheeler D, Jagatheesan G, Wieczorek D, Schwartz A, Janssen PML, Ziolo MT, and Periasamy M. Targeted over expression of sarcolipin in the mouse heart decreases sarcoplasmic reticulum calcium transport and cardiac contractility. *J. Biochem.* 2006;281:3972-3979.
- Stull LB, Hiranandani N, Kelley MA, Kelley MK, Marban E, Janssen PML. Comparison of contractile function of isolated myocardium between FVBN, C57BL/6, and SV129 mice. *Eur J Physiol.* 2006;452:140-145.
- Varian KD, Raman S, Janssen PML. Measurement of myofilament calcium sensitivity at physiological temperature in intact cardiac trabeculae. *Am. J. Physiol. Heart Circ. Physiol.*, 2006;290:H2092-2097.
- Hiranadani N, Varian KD, Monasky M, Janssen PML. Frequency-dependent contractile response of isolated cardiac trabeculae under hypo-, normo-, and hyper-thermic conditions. *J. Appl. Physiol.* 2006;100:1723-1732.
- Stypmann J*, Janssen PML*, Prestle J, Engelen MA, Kögler H, Lüllmann-Rauch R, Eckardt L, von Figura K, Landgrebe J, Mleczko A, Saftig P. LAMP-2 deficient mice show depressed cardiac contractile function without significant changes in calcium handling. *Basic Res. Cardiol.* 2006;101:281-291.
(*equal contribution)
- Hiranandani N, Bupha-Intr T, Janssen PML. SERCA overexpression reduces hydroxyl radical injury in murine myocardium. *Am. J. Physiol. Heart. Circ. Physiol.* 2006;291:H3130-3135.
- Varian KD, Janssen PML. Frequency dependent acceleration of relaxation involves decreased myofilament calcium sensitivity. *Am. J. Physiol. Heart. Circ. Physiol.* 2007;292:H2212-2219.
- Acharyya S, Villalta SA, Bakkar N, Bupha-Intr T, Janssen PML, Carathers M, Li Z, Ghosh S, Sahenk Z, Weinstein M, Gardner KL, Rafael-Fortney JA, Karin M, Tidball JG, Baldwin AS, Guttridge DC. IKK/NF- κ B Signaling interplay in macrophages and myofibers promotes muscle generation in Duchenne muscular dystrophy. *J. Clin. Invest.* 2007;117:889-901.
- Hiranandani N, Raman S, Kalyanasundaram A, Periasamy M, Janssen PML. Frequency-dependent contractile strength in mice over- and under-expressing the sarcoplasmic reticulum calcium ATPase. *Am. J. of Physiol. Reg. Integr. Comp. Physiol.* 2007;293:R30-R36.
- Keweloh B, Janssen PML, Siegel U, Datz N, Zeitz O, Hermann HP. Influence of pyruvate on economy of contraction in isolated rabbit myocardium. *Eur. J. Heart Fail.* 2007;9:754-761.
- Carnes CC, Janssen PML, Ruehr ML, Nakayama H, Nakayama T, Haase H, Bauer JA, Chung MK, Fearon IM, Gillinov MA, Hamlin RL, Von Wagoner DR. Atrial Glutathione Content, Calcium Currents and contractility. *J. Biol. Chem.* 2007;282:28063-28073.
- Janssen PML, Periasamy P. Determinants of Frequency Dependent Contraction and Relaxation of Mammalian Myocardium. *J. Mol. Cell. Cardiol.* 2007;43:523-531 (review).
- Rodino-Klapac LR, Janssen PML, Montgomery CL, Coley BD, Chicoine LG, Clark KR, Mendell JR. A translational approach for limb vascular delivery of the micro-dystrophin gene without high volume or high pressure treatment. *J. Translational Medicine.* 2007;5:45.
- Guterl KA, Haggart CR, Janssen PML, Holmes JW. Isometric contraction induces rapid myocyte remodeling in cultured rat right ventricular papillary muscles. *Am J. Physiol. Heart Circ. Physiol.* 2007;293:3707-3712.
- Bupha-Intr T, Holmes JW, Janssen PML. Induction of hypertrophy in vitro by mechanical loading in adult rabbit myocardium. *Am J. Physiol. Heart Circ. Physiol.* 2007;293:H3759-H3767.
- Monasky MM, Varian KD, Janssen PML. Gender comparison of contractile performance and beta-adrenergic response in isolated rat cardiac trabeculae. *J. Comp. Physiol. Biochem.* 2008;178:307-313.
- Periasamy M, Janssen PML. Molecular basis of diastolic dysfunction. *Heart Failure Clinics.* 2008;4:13-21 (review).
- Monasky MM, Varian KD, Davis JP, Janssen PML. Dissociation of Force Decline from Calcium Decline by Preload in Isolated Rabbit Myocardium. *Eur J Physiol.*, (in press), 2008
- Sanford JL, Mays TA, Varian KD, Wilson JB, Janssen PML, Rafael-Fortney JA. Truncated CASK does not

alter skeletal muscle or proteins interactions. Muscle and Nerve., (in press), 2008.
Wang H, Kohr MJ, Traynham CJ, Wheeler DG, Janssen PML, Ziolo T. Neuronal Nitric Oxide Synthase Signaling within Cardiac Myocytes Targets Phospholamban. Am. J. Physiol. Cell Physiol. (in press), 2008.

C. Research Support

Active Research Support; National Institutes of Health:

Janssen (PI), 4/1/04-3/31/09
NIH (NHLBI) RO1 HL073816
Cardiac Contraction-Relaxation Coupling
Janssen (PI), 4/1/06-3/31/11
NIH (NHLBI) KO2 HL083957
Myofilament calcium sensitivity in health and disease
Ziolo (PI), Janssen (Co-PI), 7/1/06-6/30/11
NIH (NHLBI) RO1 HL079283
Functional effects NOS1/NOS3 on cardiac myocyte function
Mendell (PI), Janssen (PI on subcontract to OSU), 9/01/07-8/31/09
NIH (NINDS) U54 NS055958
Diverse strategies to correct the dystrophin gene using vascular delivery
Guttridge (PI), Janssen and Rafael-Fortney (Co-I), 3/1/08-2/29/12
NIH/NINDS UO1 NS058451-01A1
NF- κ B inhibition therapy for Duchenne Muscular Dystrophy
Yates (PI), Janssen (Co-PI), 7/1/05-6/30/10
NIH "Systems in Integrative Biology" Training Grant (For IBGP, PhD program)

Active Research Support; Other:

Janssen (PI), 1/1/07-12/31/11
AHA National Center, Established Investigator Award EIA0740040N
Cardiac relaxation; frequency dependent relaxation and load induced remodeling
Janssen (PI), Rafael-Fortney (Co-PI), 8/1/07-7/31/09
Davis Heart and Lung Research Institute Program Development Grant, OSU
Diastolic Dysfunction
Janssen and Martin (Dual-PI), 7/1/06-6/31/08
CCRI/OSUCOM Research Collaboration Award
Humanizing glycosylation to humanize disease progression in mdx mouse model of Duchenne's
Varian (Student), Janssen (Mentor) 7/1/06-6/30/08
AHA Ohio Valley Affiliate, pre-doctoral award AHA 0615288B
Myofilament Calcium Sensitivity under Physiologic Conditions in Health and Disease
Hiranandani (Student), Janssen (Mentor) 7/1/07-6/30/09
AHA Great Rivers Affiliate, pre-doctoral award, AHA 0715127B
Role of myofilament and calcium in oxidative stress injury in heart
Rafael-Fortney (PI), Janssen (Co-PI), 8/1/07-7/31/09
Davis Heart and Lung Research Institute Research Development Grant, OSU
Cell Junction Proteins in Cardiomyopathy
Torres (PI), Janssen (Mentor) 7/1/07-6/30/08
Emergency Medicine Foundation
Career development award
Ziolo (PI), Janssen (Co-PI), 7/1/07-6/30/08
Davis Heart & Lung Research Institute, Research Development Grant, OSU
NOS2 Signaling and Functional Effects on Cardiac Contractility