



Curriculum Vitae Europass

DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE (art. 46 e 47 D.P.R. 445/2000)

Il sottoscritto Francesco Pasqualini, consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 76 del D.P.R. 445/2000, dichiara che le informazioni riportate nel seguente curriculum vitae, redatto in formato europeo, corrispondono a verità:

Informazioni personali

Nome(i) / Cognome(i) **Francesco Pasqualini**
Indirizzo(i) xxxx
Telefono(i) xxxx
Fax
E-mail francesco.s.pasqualini@gmail.com
Cittadinanza Italiana
Data di nascita Feb 11, 1981
Sesso M

Occupazione desiderata/Settore professionale

University Researcher
Keywords: physiology, stem cells, brain, cardiac

Esperienza professionale

Date	2017-present
Lavoro o posizione ricoperti	Research associate (non-tenure track faculty member)
Principali attività e responsabilità	Condotto gruppo di ricerca formato da 2 studenti di Ph.D. e 2 post-docs (budget: 1.5 M\$)
Nome e indirizzo del datore di lavoro	Harvard University Wyss Institute. 60 Oxford street, 02138, Cambridge, MA – USA
Tipo di attività o settore	Biofisica sperimentale e computazionale: organoids and organs-on-chips
Date	2016-2017
Lavoro o posizione ricoperti	Group leader
Principali attività e responsabilità	Condotto gruppo di ricerca formato da 3 studenti di Ph.D. e 1 post-docs (budget: 2.0 M CHF)
Nome e indirizzo del datore di lavoro	Wyss Translational Center at the University/ETH Zurich. 13 Moussonstrasse, 8044 Zurich - CH
Tipo di attività o settore	Tissue engineering per applicazioni cliniche
Date	2012-2016
Lavoro o posizione ricoperti	Post-doctoral fellow
Principali attività e responsabilità	Condotto ricerca sperimentale (in-vivo/vitro) e computazionale (in-silico) sull'elettrofisiologia e la biomeccanica di cellule muscolari derivate da cellule staminali umane per drug discovery, disease modeling e medicina rigenerativa.
Nome e indirizzo del datore di lavoro	Harvard University, Brigham and Women's Hospital, e Harvard Medical School (Boston – USA).
Tipo di attività o settore	Modelli sperimentali e computazionali di cellule muscolari umane derivate da cellule staminali.

Istruzione e formazione

Date **2009-2011**
Titolo della qualifica rilasciata **Dottorato di ricerca in Scienze dell'Ingegneria**


Principali tematiche/competenze professionali acquisite	Sviluppo di modelli in-vitro e in-silico per studiare l'elettrofisiologia e la meccanica di cellule cardiache primarie o derivate da cellule staminali umane. Esperienze all'estero presso Prof. Bers (UC Davis, CA, USA) e Prof. Parker (Harvard University, MA, USA). Relatore: Prof. Giacomo Moriconi.
Nome e tipo d'organizzazione erogatrice dell'istruzione e formazione	Dipartimento di Fisica e Ingegneria dei Materiali, Università Politecnica delle Marche, ITA
Date	2005-2008
Titolo della qualifica rilasciata	Laurea Specialistica in Ingegneria Biomedica
Principali tematiche/competenze professionali acquisite	Analisi di sistemi e segnali biologici in cellule, tessuti, e organi. Tesi di laurea in Synthetic Biology (gold medal a iGEM07: international genetic engineered machine competition in Boston). Relatore: Prof. Silvio Cavalcanti
Nome e tipo d'organizzazione erogatrice dell'istruzione e formazione	Dipartimento di Ingegneria Elettronica, Informatica, e Biomedica, Università di Bologna, ITA
Date	2001-2005
Titolo della qualifica rilasciata	Laurea Triennale in Ingegneria Biomedica
Principali tematiche/competenze professionali acquisite	Bioingegneria industriale, incluso modellistica computazionale e biomeccanica. Tesi di laurea in Fisiologia dal titolo "Omeostasi e teoria del controllo". Relatore: Prof. Fiorenzo Conti.
Nome e tipo d'organizzazione erogatrice dell'istruzione e formazione	Istituto di Fisiologia, Università Politecnica delle Marche, ITA

Capacità e competenze

Madrelingua(e)	Italiano
Altra(e) lingua(e)	English
Autovalutazione	
Livello europeo (*)	
Italiano	
English	

Comprensione				Parlato				Scritto	
Ascolto		Lettura		Interazione orale		Produzione orale			
C2	padronanza	C2	padronanza	C2	padronanza	C2	padronanza	C2	Padronanza
C2	Fluent	C2	Fluent	C2	Fluent	C2	Fluent	C2	Fluent

(*) [Quadro comune europeo di riferimento per le lingue](#)

Capacità e competenze sociali	Ho avuto l'opportunità di lavorare in gruppi di lavoro ad Harvard University (USA).
Capacità e competenze organizzative	Ho gestito gruppi di lavoro ad Harvard University (USA) e University of Zurich (CH) per il raggiungimento di specifiche payable milestones e la pubblicazione di risultati scientifici.
Capacità e competenze tecniche	In Italia, ho appreso le competenze matematiche ed informatiche necessarie per biologia computazionale e bioinformatica. All'estero, ho appreso tecniche avanzate di fisiologia (patch clamping, live confocal microscopy) e biologia molecolare (sequencing, proteomics).
Capacità e competenze informatiche	Windows, Office, Acrobat Creative Cloud. Linux. Python, Matlab, R, C++.
Capacità e competenze artistiche	Chitarra elettrica (autodidatta)
Patente	Patente automobilistica categoria B (autovetture)
Ulteriori informazioni	Cumulative citations=1260; average citations~55; H-index=12; Cumulative IF~222, Average IF ~ 10. Google scholar: http://bit.ly/FSPscholar Orcid profile: https://orcid.org/0000-0001-7038-3121
Allegati	List of achievements: patents, publication record, commission of trusts. Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali (facoltativo)".
Firma	Francesco Pasqualini 

1. Park SJ, Zhang D, Qi Y, Li Y, Lee KY, Bezzerides VJ, Yang P, Xia S, Kim SL, Liu X, Lu F, **Pasqualini FS**, Campbell PH, Geva J, Roberts AE, Kleber AG, Abrams DJ, Pu WT, Parker KK. Insights into the Pathogenesis of Catecholaminergic Polymorphic Ventricular Tachycardia from Engineered Human Heart Tissue. *Circulation*, 2019. PMID: [31311300](#)
2. MacQueen LA, Sheehy SP, Chantre CO, Zimmerman JF, **Pasqualini FS**, Liu JX, Goss JA, Campbell PH, Gonzalez GM, Park SJ, Capulli AK, Ferrier JP, Kosar TF, Mahadevan L, Pu WT, Parker KK. A tissue engineered model of the human ventricle. *Nature Biomedical Engineering*. Accepted
3. **Pasqualini FS**, Agarwal A, O'Connor BB, Liu Q, Sheehy SP, Parker KK. Traction force microscopy of engineered cardiac tissues. *PLoS One*. 2018 Mar 28;13(3):e0194706. | PMID: [29590169](#)
4. Capulli AK, Emmert MY, **Pasqualini FS**, Kehl D, Caliskan E, Lind JU, Sheehy SP, Park SJ, Ahn S, Weber B, Goss JA, Hoerstrup SP, Parker KK. JetValve: Rapid manufacturing of biohybrid scaffolds for biomimetic heart valve replacement. *Biomaterials*. 2017 Jul;133:229-241 | IF: 8.4; Cit: 3 | PMID: [28445803](#)
5. Emmert MY, Wolint P, Jakab A, Sheehy SP, **Pasqualini FS**, Nguyen TD, Hilbe M, Seifert B, Weber B, Brokopp CE, Macejovska D, Caliskan E, von Eckardstein A, Schwartlander R, Vogel V, Falk V, Parker KK, Gyöngyösi M, Hoerstrup SP. Safety and efficacy of cardiopoietic stem cells in the treatment of post-infarction left-ventricular dysfunction - From cardioprotection to functional repair in a translational pig infarction model. *Biomaterials*. 2017 Apr;122:48-62. | IF: 8.4; Cit: 3 | PMID: [28107664](#)
6. Lind JU, Busbee TA, Valentine AD, **Pasqualini FS**, Yuan H, Yadid M, Park SJ, Kotikian A, Nesmith AP, Campbell PH, Vlassak JJ, Lewis JA, Parker KK. Instrumented cardiac microphysiological devices via multimaterial three-dimensional printing. *Nature Materials*, 2017 Mar;16(3):303-308. | IF: 39.7; Cit: 82 | PMID: [27775708](#)
7. Nesmith AP, Wagner MA, **Pasqualini FS**, O'Connor BB, Pincus MJ, August PR, Parker KK. A human in vitro model of Duchenne muscular dystrophy muscle formation and contractility. *Journal of Cell Biology* 2016 Oct 10;215(1):47-56. | IF: 9.7; Cit: 2 | PMID: [27697929](#)
8. Park SJ, Gazzola M, Park KS, Park S, Di Santo V, Blevins EL, Lind JU, Campbell PH, Dauth S, Capulli AK, **Pasqualini FS**, Ahn S, Cho A, Yuan H, Maoz BM, Vijaykumar R, Choi JW, Deisseroth K, Lauder GV, Mahadevan L, Parker KK. Phototactic guidance of a tissue-engineered soft-robotic ray. *Science*. 2016 Jul 8;353(6295):158-62. | IF: 37.2; Cit: 83 | PMID: [27387948](#).
9. **Pasqualini FS***, Aratyn-Schaus Y*, Yuan H, McCain ML, Ye GJ, Sheehy SP, Campbell PH, Parker KK. Coupling primary and stem cell-derived cardiomyocytes in an in vitro model of cardiac cell therapy. *Journal of Cell Biology* 2016 Feb 15;212(4):389-97 | IF: 9.7; Cit: 19 | PMID: [26858266](#)
10. Horton RE, Yadid M, McCain ML, Sheehy SP, **Pasqualini FS**, Park SJ, Cho A, Campbell P, Parker KK. Angiotensin II Induced Cardiac Dysfunction on a Chip. *PLoS One*. 2016 Jan 25;11(1):e0146415 | IF: 2.8; Cit: 5 | PMID: [26808388](#)
11. Kujala VJ, **Pasqualini FS**, Goss JA, Nawroth JC, Parker KK. Laminar ventricular myocardium on a microelectrode array-based chip. *Journal of Material Chemistry B*. 2016; 4:3534-3543 | IF: 4.5; Cit: 8 | DOI: [10.1039/C6TB00324A](#)
12. Signore S*, Sorrentino A*, Borghetti G, Cannata A, Meo M, Zhou Y, Kannappan R, **Pasqualini F**, O'Malley H, Sundman M, Tsigkas N, Zhang E, Arranto C, Mangiaracina C, Isobe K, Sena BF, Kim J, Goichberg P, Nahrendorf M, Isom LL, Leri A, Anversa P, Rota M. Late Na(+) current and protracted electrical recovery are critical determinants of the aging myopathy. *Nature Communications* 2015 Nov 6;6:8803 | IF:12.1; Cit: 15 | PMID: [26541940](#).
13. **Pasqualini FS**, Sheehy SP, Agarwal A, Aratyn-Schaus Y, Parker KK. Structural phenotyping of stem cell-derived cardiomyocytes. *Stem Cell Reports* 2015 Mar 10;4(3):340-7. | IF: 7.3; Cit: 29 | PMID: [25733020](#)
14. Leri A, Rota M, **Pasqualini FS**, Goichberg P, Anversa P. Origin of cardiomyocytes in the adult heart. *Circ Res*. 2015 Jan 2;116(1):150-66. | IF: 13.9; Cit: 38 | PMID: [25552694](#).

Review articles and other invited articles in international journals

15. Wang G*, McCain ML*, Yang L, He A, **Pasqualini FS**, Agarwal A, Yuan H, Jiang D, Zhang D, Zangi L, Geva J, Roberts AE, Ma Q, Ding J, Chen J, Wang DZ, Li K, Wang J, Wanders RJ, Kulik W, Vaz FM, Laflamme MA, Murry CE, Chien KR, Kelley RI, Church GM, Parker KK, Pu WT. Modeling the mitochondrial cardiomyopathy of Barth syndrome with induced pluripotent stem cell and heart-on-chip technologies. *Nature Medicine* 2014 Jun;20(6):616-23 | IF: 29.9; Cit: 284 | PMID: [24813252](#)
16. McCain ML, Yuan H, **Pasqualini FS**, Campbell PH, Parker KK. Matrix elasticity regulates the optimal cardiac myocyte shape for contractility. *American Journal of Physiology: Heart and Circulation Physiology* 2014 Jun 1;306(11):H1525-39 | IF: 3.8; Cit: 38 | PMID: [24682394](#)
17. **Pasqualini FS***, Sheehy SP*, Grosberg A, Park SJ, Aratyn-Schaus Y, Parker KK. Quality metrics for stem cell-derived cardiac myocytes. *Stem Cell Reports*. 2014 Mar 6;2(3):282-94 | IF: 7.3; Cit: 43 | PMID: [24672752](#) Ye GJ, Aratyn-Schaus Y, Nesmith AP, **Pasqualini FS**, Alford PW, Parker KK. The contractile strength of vascular smooth muscle myocytes is shape dependent. *Integrative Biology (Camb)*. 2014 Feb;6(2):152-63 | IF: 3.5; Cit: 21 | PMID: [24406783](#)
18. Grandi E, **Pasqualini FS**, Bers DM. A novel computational model of the human ventricular action potential and Ca transient. *Journal of Molecular and Cellular Cardiology* 2010 Jan;48(1):112-21 | IF: 5.6; Cit: 271 | PMID: [19835882](#)
19. Grandi E, **Pasqualini FS**, Pes C, Corsi C, Zaza A, Severi S. Theoretical investigation of action potential duration dependence on extracellular Ca²⁺ in human cardiomyocytes. *Journal of Molecular and Cellular Cardiology* 2009 Mar;46(3):332-42 | IF: 5.6; Cit: 29 | PMID: [19121322](#)
20. Cambria E, **Pasqualini FS**, Wolint P, Günter J, Steiger J, Bopp A, Hoerstrup SP, Emmert MY. Translational cardiac stem cell therapy: advancing from first-generation to next-generation cell types. *NPJ Regenerative Medicine* 2017 Jun 13;2:17. | IF: -, Cit: 1 | PMID: [29302353](#).
21. **Pasqualini FS**, Emmert MY, Parker KK, Hoerstrup SP. Organs-on-a-chip: Quality assurance systems in regenerative medicine. *Clinical Pharmacology and Therapeutics* 2017 Jan;101(1):31-34 | IF: 7.9; Cit: 3 | PMID: 27709615. 1st/corresponding author
22. **Pasqualini FS**, Nesmith AP, Horton RE, Sheehy SP, Parker KK. Mechanotransduction and Metabolism in Cardiomyocyte Microdomains. *Biomedical Research International*, 2016;2016:4081638. | IF: 2.4; Cit: 2 | PMID: [28044126](#) 1st/corresponding author
23. Dijkman PE, Fioretta ES, Frese L, **Pasqualini FS**, Hoerstrup SP. Heart Valve Replacements with Regenerative Capacity. *Transfusion Medicine and Hemotherapy*. 2016 Jul;43(4):282-290. | IF: 2.16; Cit: 7 | PMID: [29302353](#).

Manuscripts (manuscripts that have been sent in should be listed first, followed by those still in progress)

- **Pasqualini FS**, Emmert MY. Cardiovascular-chips in clinical translation. *European Heart Journal*. Invited Commentary. In preparation

Patents

Pending

- Engineering Physiologically Accurate Fibrous Organ Scaffolds. U.S. Prov. Appl. 62/586,520 - 11/15/201
- Exosome-derived target compounds for rescuing ischemic tissue. HU case 6620 - 11/3/2016
- In Vitro Model of Cardiac Cell Therapy. PCT/US16/33168 filed 05/19/16 Pub#2016/191179

Issued (and licensed to Emulate, Inc.)

- Data Fused Quality Index for Stem Cells. U.S. Utility 14/913,925 filed 02/23/16 Pub#2016-0203262

Commissions of trust

- 2018 - Expert member of the working group for ECM nanofiber scaffolds of the standards-setting organization ASTM International (formerly known as American Society for Testing and Materials, Dr. Simon).
- 2016 – Reviewer for the European Commission ERA-NET (Dr. Pfenninger), H2020 (Dr. Richmond), and MSCA (Dr. Stroe) programs.
- 2016 – ‘18 Co-chair of the cell-based drug discovery sector, SCB, USA (Dr. Gintant)
- 2016 – ‘18 Industry Consultant: LEK Consulting (ref: Dr. Kfoury) and EQT Ventures (Prof. Chien).
- 2016 – ‘18 Board of Directors, Standards coordinating body (SCB) for cell/gene therapy, tissue engineering, and cell-based drug discovery, USA (Dr. Zhang)
- 2013 – Reviewer for international peer-reviewed journals: PLOS One (editors: Dr. Lebedeva, Vinci, and Barbosa), Journal of Applied Physiology (editor: Dr. De Souza), Life Sciences (editor: Dr. Del Monte), and Transactions in NanoBioscience (editor: Dr. Hess).
- 2013 – Reviewer for national funding agencies: Italian Ministry of Health (ref: Dr. Guglielmini) and Netherland Institute of Health (Dr. Van Oort)

Invited talks (Most relevant 5 out of 10, not including posters)

- *Rapid manufacturing of regenerative cardiovascular prostheses*. HVS meeting, New York City, NY, USA – Apr 2018
- *Rational Design of Cardiac Tissues: Genes, Form, and Function*. EMBL Barcelona, ES – Nov 2017
- *Stem cell-derived cardiomyocytes and heart-chips: quality assurance in drug discovery, disease modeling, and regenerative medicine applications*. Ahyaluronic acid Scientific Sessions, NOLA, US – Nov 2016.
- *Human heart-chip technologies for safety and efficacy pharmacology*. Society of Toxicology. DC, US - Oct 2016.
- *Quality Control of hiPS-Derived Cardiomyocytes for On-a-Chip Pathophysiology Studies*, Novartis Institute for Biomedical Research, Cambridge, USA – 2015

Awards

- 2017 Edison award: Cyborg ray (<http://cyborgray.com/media>), NY, USA
- 2012 Best PhD Thesis, Polytechnic University of Marche, Ancona, Italy
- 2009 Best Master thesis, National Group of Bioengineering, Bressanone, Italy.
- 2007 Gold Medal Winner at iGEM Competition, MIT, Cambridge, USA.