Curriculum Vitae

(Last update February 25, 2023)

Eng. Filippo Piccinini, PhD

Born: April 20, 1985, Forlimpopoli, FC, Italy
Resident: Via Pola 6/2, I-48018, Faenza, RA, Italy
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Current position

SENIOR ASSISTANT PROFESSOR (RTD-B, 02/D1, FIS/07)
University of Bologna
Department of Medical and Surgical Sciences (DIMEC)

and

RESEARCH FELLOW
IRCCS Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori" - IRST S.r.l.
Via P. Maroncelli 40, 47014, Meldola (FC), Italy
Cancer Research Hospital, Medical Physics Unit

and

EDITOR
Journal: BioMed Research International - Hindawi (Q2, JCR IF2020: 3.411)
Journal: Sensors - MDPI (Q1, JCR IF2020: 3.576)

National Scientific Qualification (ASN) as Associate Professor: FIS/07 - APPLIED PHYSICS (received the 17th September 2018)
National Scientific Qualification (ASN) as Associate Professor: 09/G2 – BIOENGINEERING (received the 14th May 2019)

Registry of Engineers, Chamber of Forlì: Engineer ID 2786, Section: A/INF (accepted in the Chamber the 30th January 2019)

Current research:

Cancer three-dimensional (3D) multicellular aggregates, typically known as spheroids, are *in vitro* models widely used for testing drugs and radiotherapy treatments. However, experiments using 3D models are jeopardized by the data reproducibility problem. We proved that a spheroid pre-selection, based on the spheroid morphology, is needed to obtain statistical relevant data. Accordingly, we developed open-source software tools capable of performing an automatic image analysis of the spheroids, to guide researchers in performing experiments based on 3D models. Finally, we proceeded in performing high-content screening experiments using 3D cell cultures, meanwhile designing customized software for the different analyses.

Education

	Doctor Europaeus, PhD in Information Technology
Dates	University of Bologna, Italy, 1st January 2010 – 31st December 2012. ETH Zurich, Switzerland, 9th May 2011 – 26th August 2011, 7th May 2012 – 8th August 2012. Defence: 19th April 2013. Graduation Ceremony: 21st June 2013.
Scientific field	Informatics and bioengineering
Thesis title	Solutions to common issues in widefield microscopy: vignetting, mosaicing and depth of focus.

Supervisors	Prof. Alessandro Bevilacqua (University of Bologna) Prof. Mauro Ursino (University of Bologna) Prof. Peter Horvath (ETH Zurich)
Financing	3-year-study ministerial grant and ETH Zurich grant.
	Master Degree in Biomedical Engineering, 110/110 cum LAUDE (average score pre-degree: 29.9/30)
Dates	University of Bologna, Italy, September 2007 – October 2009. Defence: 14th October 2009.
Scientific field	Computer vision
Thesis title	Algorithm for building mosaics of partially overlapping images regarding adherent live stem cells.
Supervisor	Prof. Alessandro Bevilacqua (University of Bologna)
	Bachelor Degree in Biomedical Engineering, 110/110 cum LAUDE (average score pre-degree: 29.1/30)
Dates	University of Bologna, Italy, September 2004 – July 2007. Defence: 25th July 2007.
Scientific field	Applied physics
Thesis title	Numerical study of dual solutions in mixed convection with viscous dissipation in a vertical conduit.
Supervisor	Prof. Stefano Lazzari (University of Bologna)
	High School Industrial Technical Diploma in Electronics and Telecommunications, 100/100
Dates	Faenza (RA), Italy, September 1999 – July 2004.

Major fields of research

CANCER RESEARCH
MICROSCOPY
IMAGE PROCESSING AN ANALYSIS
3D CELL CULTURES
MESENCHYMAL STROMAL CELLS
CELL SEGMENTATION, PHENOTYPING AND TRACKING
MACHINE AND DEEP LEARNING
HIGH-CONTENT SCREENING

Main research collaborations and experiences

	Senior Assistant Professor (RTD-B, 02/D1, FIS/07), University of Bologna, Italy.
Dates	December 23, 2021 – today.
	Adjunct Professor, University of Bologna, Italy.
Dates	June 8, 2017 – December 22, 2021.
	Post-doctoral research fellow, IRST- IRCCS Cancer Research Hospital, Italy.
Dates	February 13, 2017 – today.
	Editor, Sensors (JCR IF2020: 3.576), MDPI.
Data	October 30, 2020 – today.
	Editor, BioMed Research International (JCR IF2020: 3.411), Hindawi Limited.
Data	July 10, 2020 – today.

	Post-doctoral research fellow, ARCES, University of Bologna, Italy.
Dates	April 20, 2013 – February 12 2017.
Supervisor	Prof. Alessandro Bevilacqua
	UICC YY International Cancer Study Grant, Biological Research Center (BRC), Szeged, Hungary.
Dates	May 22, 2020 – August 22, 2020.
Supervisor	Prof. Peter Horvath.
	UICC Technical Fellowship, Biological Research Center (BRC), Szeged, Hungary.
Dates	May 21, 2019 – July 27, 2019.
Supervisor	Prof. Peter Horvath.
	NEUBIAS Short Term Scientific Mission, Biological Research Center (BRC), Szeged, Hungary.
Dates	April 30, 2018 – June 29, 2018.
Supervisor	Prof. Peter Horvath.
	EACR Travel Fellowship, Biological Research Center (BRC), Szeged, Hungary.
Dates	May 1, 2017 – July 31, 2017.
Supervisor	Prof. Peter Horvath.
	FEBS Short-Term Fellowship, Biological Research Center (BRC), Szeged, Hungary.
Dates	April 1, 2016 – July 31, 2016.
Supervisor	Prof. Peter Horvath.
	EMBO Short-Term Fellowship, Biological Research Center (BRC), Szeged, Hungary.
Dates	May 17, 2015 – July 24, 2015.
Supervisor	Prof. Peter Horvath.
	Light Microscopy and Screening Center, ETH Zurich, Switzerland.
Dates	May 9, 2011 – August 26, 2011; May 7, 2012 – August 8, 2012.
Supervisor	Prof. Gábor Csúcs.
	Osteoarticular Regeneration Laboratory, Istituto Ortopedico Rizzoli, Bologna, Italy.
Dates	April 20, 2009 – December 31, 2015.
Supervisor	Dr. Enrico Lucarelli
	Laboratory of Biosciences, IRST- IRCCS, Meldola (FC), Italy.
Dates	July 6, 2010 – December 31, 2015.
Supervisor	Dr. Anna Tesei

Main research projects

	I have been involved in the following research projects:
Project name	**Microscopy & Artificial intelligence (MiAi)**
Short description	Design and development of computer vision tools and image-based applications.

Collaborating institutions	- Biological Image Analysis a Machine Learning Group, Biological Research Centre, Szeged, Hungary - IRST IRCCS Meldola, Italy
Duration	April 2021 - today.
Project name	**3D-CELL-ANNOTATOR** – 3D single cell segmentation.
Short description	3D-Cell-Annotator, a free open-source plugin for MITK for segmenting single cells in 3D datasets (e.g. spheroids, organoids, embryos). www.3d-cell-annotator.org
Collaborating institutions	- Biological Image Analysis and Machine Learning Group, Biological Research Centre, Szeged, Hungary - IRST IRCCS Meldola, Italy
Duration	Since May 2018.
Project name	**ADVANCED CELL CLASSIFIER** – Cell classification and analysis.
Short description	Advanced Cell Classifier, a free open-source software for classifying and analysing cells imaged in high content screening experiments. www.cellclassifier.org
Collaborating institutions	- Biological Image Analysis and Machine Learning Group, Biological Research Centre, Szeged, Hungary - Computer Vision Group, University of Bologna, Italy
Duration	Since April 2016.
Project name	**CELLTRACKER** – *In vitro* live cell tracking.
Short description	CellTracker, a free open-source software for tracking in 2D living cells. http://celltracker.website
Collaborating institutions	- Biological Image Analysis and Machine Learning Group, Biological Research Centre, Szeged, Hungary - Computer Vision Group, University of Bologna, Italy
Duration	Since May 2015.
Project name	**DYNAMO** - 3D dynamic tumor models
Short description	Validation of new approaches based on automatic microscopic image analysis for in vitro therapeutic screening and for the characterization of the invasive behaviour of cancer cells.
Collaborating institutions	- Laboratory of Biosciences, IRST- IRCCS, Meldola (FC), Italy - Computer Vision Group, University of Bologna, Italy
Duration	January 2016 - today.
Project name	**STAMINAL** - Characterization of stem cells through support for automatic analysis of the microscopic images in pre-clinical therapy.
Short description	Development of software tools for the automatic analysis of stem cells and cancer cells, both in monolayer and multicellular spheroids.
Collaborating institutions	- Laboratory of Biosciences, IRST- IRCCS, Meldola (FC), Italy - Computer Vision Group, University of Bologna, Italy
Duration	January 2011 - December 2015.
Project name	**ADVANCE** - Automatic non-invasive system, based on high content analysis to detect and characterize vital mesenchymal stem cells in a spatio-temporal context.
Short description	Development of software tools for the automatic analysis of mesenchymal stem cells used in regenerative medicine for bone tissue applications.
Collaborating institutions	- Osteoarticular Regeneration Laboratory, Istituto Ortopedico Rizzoli (IOR), Bologna, Italy - Computer Vision Group, University of Bologna, Italy
Duration	January 2010 - December 2010.

Research groups, scientific associations and institutions

IRCCS Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (IRST) S.r.l., IRCCS, www.irst.emr.it Member since 2017.

BioPhysics – University of Bologna – Prof. Gastone Castellani's Research Group
Member since 2021.

Società Italiana di Fisica (SIF), www.sif.it
Member since 2021.

Associazione per l'Insegnamento della Fisica (AIF), www.aif.it
Member since 2021.

Italian Mesenchymal Stem Cell Group (GISM), www.gismonline.it **Founder Member** since 2014.

Vittorio Tison Association, "Culture & Solidarity" ONLUS. www.associazionevittoriotison.org Member since 2019.

Advanced Research Center on Electronic Systems "E. De Castro" (ARCES), University of Bologna, Italy. www.arces.unibo.it Member since 2010.

Computer Vision Group (CVG), University of Bologna, Italy. http://cvg.deis.unibo.it Member since 2010.

Register of Engineers, Chamber of Forlì: Engineer ID 2786, Section: A/INF. www.ordineing-fc.it
Member since 2019.

Associazione Volontari Italiani del Sangue (AVIS), Italian society of donors of blood.
www.avisfaenza.it Member since 2009.

Italian Society of Biochemistry and Molecular Biology (SIB), www.biochimica.it Member since 2015.

Italian National Bioengineering Group (GNB), www.bioing.it Member since 2012.

Italian Association Cell Culture (ONLUS-AICC), www.onlus-aicc.org Member in 2013.

European Association for Cancer Research (EACR), www.eacr.org Member since 2015.
Ambassador since 20/04/2018

European Light Microscopy Initiative (ELMI), http://elmi.embl.org/home Member since 2016.

Association of Union for International Cancer Control (UICC) Fellows, https://www.uicc.org Member since 2019

FigShare, store, share, discover research, https://figshare.com/.
Ambassador since 23/07/2019.

Network of European Bioimage Analysts (NEUBIAS), http://eubias.org/NEUBIAS Member since 2016

Honours and awards

Award: "1st position poster presentation competition", PerkinElmer 2022 High Content Screening (HCS) Group Meeting, 17/05/2022, Biological Research Centre (BRC), Szeged, Hungary. Poster presented: "CometAnalyser: a user-friendly, open-source deep-learning microscopy tool for quantitative comet assay analysis. By: A. Baleon, S. Pignatta, C. Arienti, A. Carbonaro, P. Horvath, G. Martinelli, G. Castellani, A. Tesei, F. Piccinini".

Future Science - Future Star Award 2021, **runner-up** among the 4 finalists selected by the scientific committee composed of Editors and researchers of the publisher "Future Science" which publishes prestigious scientific journals including BioTechniques.

Yamagiwa-Yoshida (YY) Memorial International Cancer Study Grant (3 months, 2020) awarded by the Union for International Cancer Control (UICC), Biological Research Centre, Szeged, Hungary, 2020 (US$ 6500).

Technical fellowship (2 months, 2019) awarded by the Union for International Cancer Control (UICC), Biological Research Centre, Szeged, Hungary, 2019 (US$ 2500).

Awarded by the GISM society for the contribution to the Group's activities since its establishment. In particular, for the work carried out to make effective the dissemination of scientific information. Awards ceremony held on the 5th April 2019, Genova, Italy.

Travel fellowship (2 months, 2018) awarded by the Network of European Bioimage Analysts (NEUBIAS), Biological Research Centre, Szeged, Hungary, 2018 (Eur 2000).

Travel fellowship (3 months, 2017) awarded by the European Association for Cancer Research (EACR), Biological Research Centre, Szeged, Hungary, 2017 (Eur 2000).

Awarded by the **Marie Sklodowska-Curie Actions Seal of Excellence**, an award to applicants of proposals submitted to the MSCA Individual Fellowships Call that scored 85% or more (obtained score 91.2%).

Winner of the local selection of FameLab 2017, the Talking Science international competition (Modena, 24th March 2017). The prize was a 3-day course (all expenses paid) with theatre directors, psychologists and famous public speakers to improve my public speaking, and access to the National Finals.

Travel Award from the Italian Embassy in Seoul, South Korea, to visit Universities/Institutes in Seoul to establish new collaborations, August 2016 (Eur 2000).

Travel Award from the Italian Society of Biochemistry and Molecular Biology (SIB), Biological Research Centre, Szeged, Hungary, July 2016 (Eur 1000)

Short-term fellowship (2 months, 2016) awarded by the Federation of European Biochemical Societies (FEBS), Biological Research Centre, Szeged, Hungary, 2016 (Eur 4000).

Candidate for the Award "Sapio Junior for the Italian Research" nominated by the Pro-Rector (teaching area) of the University of Bologna, Prof. Enrico Sangiorgi. Final ceremony: Palazzo Montecitorio, Roma, 16th March 2016.

Short-term fellowship (3 months, 2015) awarded by the European Molecular Biology Organization (EMBO), Biological Research Centre, Szeged, Hungary, 2015 (Eur 5000).

Best Oral Communication Award, awarded by the Italian Association of Cell Culture (ONLUS-AICC) 2014. Award ceremony held on 14th November 2014, Verona, Italy (Eur 500)

Selected as the representative PhD student (scientific area) to give the speech during the PhD Graduation Ceremony (21st June 2013, Santa Lucia Church, Bologna). 1200 people, including 380 PhD students, were present.

Free conference registration grant, 1st International Conference Materials in Medicine (MiMe). 8th October 8-11, 2013. Faenza (RA), Italy.

Free conference registration grant, 8th World Conference on The Future of Science. September 16-18, 2012. Venezia, Italy.

Travel Award "Marco Polo 2011" from the University of Bologna, Light Microscopy and Screening Center, ETH Zurich, Switzerland. 2011 (3500 Euros)

Best Master Thesis Award "Mario Pasquini 2010", awarded by the Marine & Freshwater Science Group Association. Awards ceremony held on the 22nd June 2010, Savoia Hotel Regency of Bologna, Italy (2500 Euros)

Scholarship "F.I.D.A.", for university merits for the academic years 2004/2005 and from 2006/2007 to 2008/2009, granted by Fondo Integrativo Di Assistenza of Ravenna, Italy (2000 Euros).

Scholarship "Homo Sapiens Sapiens", for university merits for the academic year 2004/2005, granted by I.N.P.D.A.P. Rome, Italy, on the 7th November 2007 (1000 Euros).

Scholarship "F.I.D.A.", for school merits for the school years from 1999/2000 to 2002/2003, granted by Fondo Integrativo Di Assistenza of Ravenna, Italy (800 Euros).

Publication statistics

ORCID:	**0000-0002-0371-7782**
SCOPUS AUTHOR ID:	**36806469000**
WEB OF SCIENCE ResearcherID:	**ABC-7747-2020**
Peer reviewed scientific articles:	**67**
- Journal publications (with IF in JCR):	**45**
- Journal publications (without IF in JCR):	**6**
- Conference proceedings:	**16**
Books/Book-chapters:	**3**
First author publications (in journals with IF in JCR):	**19**
Last author publications (in journals with IF in JCR):	**5**
Corresponding author publications (in journal with IF JCR):	**9**
Total impact:	**334.6060 IF**
Average impact:	**7.4357 IF**
Total number of citations (SCOPUS):	**1658**
H-index (SCOPUS):	**20**
Best publication:	**Nature Reviews Drug Discovery - 57.618 IF**

Publications

International Journals (with official IF in JCR)

45 C. Voros, D. Bauer, E. Migh, I. Grexa, A.G. Vegh, B. Szalontai, G. Castellani, T. Danka, S. Dzeroski, K. Koos, F. Piccinini, P. Horvath, *Correlative Fluorescence and Raman Microscopy to Define Mitotic Stages at the Single-Cell Level: Opportunities and Limitations in the AI Era*. **Biosensors**, 13(2):187, January 2023. DOI: 10.3390/bios13020187. IF(2021): 5.743/Q1

44 A. Beleon, S. Pignatta, C. Arienti, A. Carbonaro, P. Horvath, G. Martinelli, G. Castellani, A. Tesei*, F. Piccinini*, *CometAnalyser: A user-friendly, open-source deep-learning microscopy tool for quantitative comet assay analysis*. **Computational and Structural Biotechnology Journal**, 20:4122-4130, August 2022. DOI: 10.1016/j.csbj.2022.07.053. IF(2021): 6.155/Q1

43 E. Mezzenga, F. Piccinini, E. Loi, M.L. Belli, A. Sarnelli, *Reconstructed SPECT images of 177Lu homogeneous cylindrical phantom used for calibration and texture analysis*. **Scientific Data**, 9:412, July 2022. DOI: 10.1038/s41597-022-01535-8. IF(2021): 8.501/Q1.

42 R. Hollandi, N. Moshkov, L. Paavolainen, E. Tasnadi, F. Piccinini, P. Horvath, *Nucleus segmentation: towards automated solutions*. **Trends in Cell Biology**, 32(4):295-310, April 2022. DOI: 10.1016/j.tcb.2021.12.004. IF(2021): 21.167/Q1.

41 A. Peirsman, E. Blondeel, T. Ahmed, J. Anckaert, D. Audenaert, T. Boterberg, K. Buzas, N. Carragher, G. Castellani, F. Castro, V. Dangles-Marie, J. Dawson, P. De Tullio, E. De Vlieghere, S. Dedeyne, H. Depypere, A. Diosdi, R.I. Dmitriev, H. Dolznig, S. Fischer, C. Gespach, V. Goossens, J.Heino, A. Hendrix, P. Horvath, L. A. Kunz-Schughart, S. Maes, C. Mangodt, P. Mestdagh, S. Michlíková, M.J. Oliveira, F. Pampaloni, F. Piccinini, C. Pinheiro, J. Rahn, S.M. Robbins, E. Siljamäki, P. Steigemann, G. Sys, S. Takayama, A. Tesei, J. Tulkens, M. Van Waeyenberge, J. Vandesompele, G. Wagemans, C. Weindorfer, N. Yigit, N. Zablowsky, M. Zanoni, P. Blondeel, O. De Wever, *MISpheroID: a knowledgebase and transparency tool for minimum information in spheroid identity*. **Nature Methods**, 18:1294–1303, November 2021. DOI: https://doi.org/10.1038/s41592-021-01291-4. IF(2021): 47.990/Q1.

40 R. Reda*, F. Piccinini*, G. Martinelli, A. Carbonaro, *Heterogeneous self-tracked health and fitness data integration and sharing according to a linked open data approach*. **Computing**, 104(4):835-857, August 2021. DOI: https://doi.org/10.1007/s00607-021-00988-w. IF(2021): 2.420/Q2.

39 G. Feliciani, L. Mellini, E. Loi, F. Piccinini, R. Galeotti, A. Sarnelli, G.C. Parenti, *An annotated T2-weighted magnetic resonance image collection of testicular germ and non-germ cell tumors*. **Scientific Data**, 8:209, August 2021. DOI: https://doi.org/10.1038/s41597-021-00990-z. IF(2021): 8.501/Q1.

38 F. Piccinini, G. Martinelli, A. Carbonaro, *Reliability of body temperature measurements obtained with contactless infrared point thermometers commonly used during the COVID-19 pandemic*. **Sensors**, 21:3794, May 2021. DOI: https:// doi.org/10.3390/s21113794. IF(2021): 3.847/Q2.

37 A. Szkalisity, F. Piccinini, A. Beleon, T. Balassa, I.G. Varga, E. Migh, C. Molnar, L. Paavolainen, S. Timonen, I. Banerjee, E. Ikonen, Y. Yamauchi, I. Ando, J. Peltonen, V. Pietiäinen, V. Honti, P. Horvath, *Regression plane concept for analysing continuous cellular processes with machine learning*. **Nature Communications**, 12:2532, May 2021. DOI: https://doi.org/10.1038/s41467-021-22866-x. IF(2020): 17.694/Q1.

36 E. Bari, M. Serra, M. Paolillo, E. Bernardi, S. Tengattini, F. Piccinini, C. Lanni, M. Sorlini, G. Bisbano, E. Calleri, S. Perteghella, M.L. Torre, *Silk fibroin nanoparticle functionalization with Arg-Gly-Asp Cyclopentapeptide promotes active targeting for tumor site-specific delivery*. **Cancers**, 13(5):1185, March 2021. DOI: 10.3390/cancers13051185. IF(2021): 6.575/Q1.

35 A. Diosdi, D. Hirling, M. Kovacs, T. Toth. M. Harmati, K. Koos, K. Buzas, F. Piccinini, P. Horvath, *A quantitative metric for the comparative evaluation of optical clearing protocols for 3D multicellular spheroids*. **Computational and Structural Biotechnology Journal**, 19:1233-1243, February 2021. DOI: 10.1016/j.csbj.2021.01.040. IF(2021): 6.155/Q1.

34 G. Feliciani, L. Mellini, A. Carnevale, A. Sarnelli, E. Menghi, F. Piccinini, E. Scarpi, E. Loi, R. Galeotti, M. Giganti, G.C. Parenti, *The potential role of MR based radiomic biomarkers in the characterization of focal testicular lesions*. **Scientific Reports**, 11:3456, February 2021. DOI: 10.1038/s41598-021-83023-4. IF(2021): 4.996/Q2.

33 F. Piccinini, G. Martinelli, A. Carbonaro, *Accuracy of mobile applications versus wearable devices in long-term step measurements*. **Sensors**, 20(21):6293, November 2020. DOI: 10.3390/s20216293. IF(2020): 3.576/Q1.

32 G. Landini, G. Martinelli, F. Piccinini, *Colour Deconvolution – stain unmixing in histological imaging*. **BioInformatics**, btaa847, September 2020. DOI: 10.1093/bioinformatics/btaa847. IF(2020): 6.937/Q1.

31 S. Pignatta, M. Cortesi, C. Arienti, M. Zanoni, C. Cocchi, A. Sarnelli, D. Arpa, F. Piccinini, A. Tesei, *Effects of radiotherapy and short-term starvation combination on metastatic and non-tumor cell lines.* **DNA Repair**, 95:102949, August 2020. DOI: 10.1016/j.dnarep.2020.102949. IF(2020): 4.913/Q1.

30 F. Piccinini, T. Balassa, A. Carbonaro, A. Diosdi, T. Toth, N. Moshkov, E.A. Tasnadi, P. Horvath, *Software tools for 3D nuclei segmentation and quantitative analysis in multicellular aggregates.* **Computational and Structural Biotechnology Journal**, 18:1287-1300, June 2020. DOI: 10.1016/j.csbj.2020.05.022. IF(2020): 7.271/Q1.

29 V. Turri, O.S. Latinovic, M. Bonafè, N. Toyang, M. Parigi, M. Calassanzio, P.L. Martelli, A. Vagheggini, G. Abbati, A. Sarnelli, R. Casadio, C. Ratti, P. Massi, J.E. Schoelz, M.S. Salvato, F. Piccinini, G. Martinelli, *Cauliflower mosaic virus TAV, a plant virus protein that functions like ribonuclease H1 and is cytotoxic to glioma cells.* **BioMed Research International**, 2020:7465242, March 2020. DOI: 10.1155/2020/7465242. IF(2020): 3.411/Q2.

28 E.A. Tasnadi, T. Toth, M. Kovacs, A. Diosdi, F. Pampaloni, J. Molnar, F. Piccinini, P. Horvath, *3D-Cell-Annotator: an open-source active surface tool for single cell segmentation in 3D microscopy images.* **BioInformatics**, 36(9):2948-2949, January 2020. DOI: 10.1093/bioinformatics/btaa029. IF(2020): 6.937/Q1.

27 M. Harmati, E. Gyukity-Sebestyen, G. Dobra, L. Janovak, I. Dekany, O. Saydam, E. Hunyadi-Gulyas, I. Nagy, A. Farkas, T. Pankotai, Z. Ujfaludi, P. Horvath, F. Piccinini, M. Kovacs, T. Biro, K. Buzas, *Small extracellular vesicles convey the stress-induced adaptive responses of melanoma cells.* **Scientific Reports**, 9:15329, October 2016. DOI: 10.1038/s41598-019-51778-6. IF(2019): 3.998/Q1.

26 J. Bulgarelli, M. Tazzari, A.M. Granato, L. Ridolfi, S. Maiocchi, F. de Rosa, M. Petrini, E. Pancisi, G. Gentili, B. Vergani, F. Piccinini, A. Carbonaro, B.E. Leone, G. Foschi, V. Ancarani, M. Framarini, M. Guidoboni, *Dendritic cell vaccination in metastatic melanoma turns "non-T cell inflamed" into "T-cell inflamed" tumors*. **Frontiers in Immunology**, 10:2353, October 2019, DOI: 10.3389/fimmu.2019.02353. IF(2019): 5.085/Q1.

25 A. Sarnelli, E. Mezzenga, A. Vagheggini, F. Piccinini, G. Feliciani, M.L. Belli, F. Monti, M. Cremonesi, C. Cittanti, G. Martinelli, G. Paganelli. *Texture analysis in 177Lu SPECT phantom images: Statistical assessment of uniformity requirements using texture features*. **PLoS ONE**, 14(7):e0218814, July 2019, DOI: 10.1371/journal.pone.0218814. IF(2019): 2.740/Q2.

24 I. De Santis, E. Tasnadi, P. Horvath, A. Bevilacqua, F. Piccinini. *Open-source tools for volume estimation of 3D multicellular aggregates*. **Applied Sciences**, 9(8):1616, April 2019, DOI: 10.3390/app9081616. IF(2019): 2.474/Q2.

23 F. Piccinini, I. De Santis, A. Bevilacqua. *Advances in cancer modeling: fluidic systems for increasing representativeness of large 3D multicellular spheroids*. **BioTechniques**, 65(6):312-314, November 2018, DOI: 10.2144/btn-2018-0153. IF(2018): 1.659/Q4.

22 N. Carragher, F. Piccinini, A. Tesei, O.J. Trask Jr, M. Bickle, P. Horvath. *Concerns, challenges and promises of high-content analysis of 3D cellular models*. **Nature Reviews Drug Discovery**, 17(8):606, July 2018. DOI: 10.1038/nrd.2018.99. IF(2018): 57.618/Q1.

21 K. Smith, F. Piccinini, T. Balassa, K. Koos, T. Danka, H. Azizpour, P. Horvath. *Phenotypic image analysis software tools for exploring and understanding big image data from cell-based assays*. **Cell Systems**, 6(6):636-653, June 2018. DOI: 10.1016/j.cels.2018.06.001. IF(2018): 8.640/Q1.

20 F. Piccinini, A. Bevilacqua. *Colour vignetting correction for microscopy image mosaics used for quantitative analyses*. **BioMed Research International**, 2018:7082154, June 2018. DOI: 10.1155/2018/7082154. IF(2018): 2.197/Q3.

19 G. Gallerani, C. Cocchi, M. Bocchini, F. Piccinini, F. Fabbri. *Characterization of tumor cells using a medical wire for capturing circulating tumor cells: a 3D approach based on immunofluorescence and DNA FISH*. **Journal of Visualized Experiments**, 130:e56936, December 2017. DOI: 10.3791/56936. IF(2017): 1.184/Q3.

18 C. Arienti, S. Pignatta, M. Zanoni, M. Cortesi, A. Zamagni, F. Piccinini, A. Tesei. *Looking for driver pathways of acquired resistance to targeted therapy: drug resistant subclone generation and sensitivity restoring by gene knock-down*. **Journal of Visualized Experiments**, 130:e56583, December 2017. DOI: 10.3791/56583. IF(2017): 1.184/Q3.

17 F. Piccinini, A. Tesei, M. Zanoni, A. Bevilacqua, *ReViMS: Software tool for estimating the volumes of 3-D multicellular spheroids imaged using a light sheet fluorescence microscope*. **BioTechniques**, 63(5):227-229, November 2017. DOI: 10.2144/000114609. IF(2017): 2.098/Q4.

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Invited presentations

22 Title: "Scientific Articles: How To Choose The Right Journal Taking Advantage Of Some Opportunities". Date: 20/10/2022. Event: “Annual Meeting of the Italian Mesenchymal Stem Cell Group (GISM)”, Location: Turin. Main Organizer: Prof. Augusto Pessina, IRCCS BESTA Milan. Time: 15 min.

21 Title: "Humanistic knowledge and scientific knowledge dialogue at school". Date: 07/04/2022. Event: “Meetings 2022 - ScuolaParlante”, Location: Auditorium Liceo Classico Torricelli, Faenza (RA), Italy. Main Organizer: Gruppo interdisciplinare ScuolaParlante. Time: 1 hour.

20 Title: "Opportunities for Short-Term Fellowships in Europe". Date: 24/09/2021. Event: “Conference STEMNET2021”, Location: Padova. Main Organizer: Prof. Augusto Pessina, IRCCS BESTA Milan. Time: 15 min.

19 Title: "New frontiers for testing drugs: computer sciences and cell cultures in 3D". Date: 03/02/2021. Event: “A sight at the future (of information technology)”, Location: digital even – University of Bologna. Main Organizer: Prof. Annalisa Franco e Catia Prandi, University of Bologna. Time: 1 hour.

18 Title: "New frontiers for testing drugs: computer sciences and cell cultures in 3D". Date: 10/06/2020. Event: “Summer Camp 2020 - Digital Girls”, Location: digital even - University of Bologna. Main Organizer: Prof. Antonella Carbonaro, University of Bologna. Time: 2 hours.

17 Title: "Advanced Cell Classifier: an open-source machine-learning tool useful for mesenchymal stem cell classification". Date: 04/04/2019. Location: 4th Annual Meeting of the Italian Mesenchymal Stem Cell Group (GISM), Genova, Italy. Time: 10 min.

16 Title: "Semantic modelling of smart healthcare data". Data: 07/09/2018. Location: Intelligent Systems Conference 2018 (IntelliSys2018), London, UK. Time: 15 min.

15 Title: "Towards consistent data representation in the IoT healthcare landscape". Data: 24/04/2018. Location: 8th International Digital Health Conference (DH'18), Lyon, France. Time: 15 min.

14	Title: "3D cell cultures, from generation to analysis, today and tomorrow". Mini-symposium series: "3D cell cultures: present and future". Date: 02/08/2018. Location: Biological Research Centre, Hungarian Academy of Sciences, Szeged, Hungary. Time: 30 min. Invitation from: Prof. Peter Horvath.
13	Title: "Image processing tools and software applications to improve the research output in Biology and Microscopy". Date: 21/02/2017. Location: Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (IRST) IRCCS, Meldola (FC), Italy. Time: 30 min. Invitation from: Prof. Dino Amadori.
12	Title: "Quantitative microscopy using 3D multicellular spheroids: generation, imaging, and analysis". Location: Presentations sponsored by the Italian Embassy in Seoul, South Korea. 30th August 2016 to Samsung Medical Center, 31st August 2016 to Yonsei University, 02nd September 2016 to Medicinal Bioconvergence Research Center, Seoul, South Korea. Time: 1 h.
11	Title: “How to write a scientific article”. Date: 11/05/2016. Location: Biological Research Centre, Hungarian Academy of Sciences, Szeged, Hungary. Time: 60 min. Invitation from: Prof. Peter Horvath.
10	Title: “The right microscope for the right sample”. Date: 01/12/2015. Audience: Master students of the course BioChemistry, Biomedical Engineering. Location: School of Engineering, Cesena, University of Bologna. Time: 3 h. Invitation from: Prof. Emanuele Giordano.
9	Title: "Over time homogeneity and stability of mesenchymal stromal cells 3D spheroids built using base-level laboratory equipment". Date: 08/10/2015. Location: 1st Annual Meeting of the Italian Mesenchymal Stem Cell Group (GISM), Brescia, Italy.
8	Title: “Microscope limits and 3D cell cultures”. Date: 21/05/2015. Location: Biological Research Centre, Hungarian Academy of Sciences. Location: Szeged, Hungary. Time: 30 min. Invitation from: Prof. Peter Horvath.
7	Title: “The right microscope for the right sample”. Date: 27/11/2014. Audience: Master students of the course BioChemistry, Biomedical Engineering. Location: School of Engineering, Cesena, University of Bologna. Time: 2 h. Invitation from: Prof. Emanuele Giordano.
6	Title: "Cell proliferation in 3D cancer spheroids: volume assessment and 3D reconstruction from a single 2D projection". Date: 14/11/2014. Location: 27th annual congress Italian Association Cell Culture (ONLUS-AICC), Verona, Italy.
5	Title: "Image processing method for 3D volume rendering from one 2D projection: application to cancer spheroids". Date: 15/10/2014. Location: 4th IEEE International Conference on Image Processing Theory, Tools and Applications (IPTA), Paris, France.
4	Title: "Extending the field of view microscope’s camera using a video of images". Date: 08/10/2013. Location: 1st International Conference Materials in Medicine (MiMe), Faenza (RA), Italy.
3	Title: “Solutions to common issues in widefield microscopy: vignetting, mosaicing and depth of focus”. Date: 14/05/2013. Audience: PhD Students in BioEngineering. Location: School of Engineering, Cesena, University of Bologna. Time: 1 h. Invitation from: Prof. Stefano Severi.
2	Title: “Some selected research activities”. Date: 10/05/2011. Audience: Researchers of Light Microscopy and Screening Center, ETH Zurich, Switzerland. Location: ETH Zurich. Time: 1 h. Invitation from: Prof. Peter Horvath.
1	Title: “PET and SPECT”. Date: 01/04/2011. Audience: Master students of the course BioImages, Biomedical Engineering. Location: School of Engineering, Cesena, University of Bologna. Time: 1 h. Invitation from: Prof. Alessandro Bevilacqua.

Commissions of trust

Editorial Board member	**BioMed Research International (IF2020: 3.411)**, Section: Computational Biology. Hindawi Limited Academic Editor since 10/07/2020 https://www.hindawi.com/journals/bmri/ **Sensors (IF2020: 3.576)**, MDPI Topic Editor since 30/10/2020 https://www.mdpi.com/journal/sensors

Sensors (IF2020: 3.576), MDPI, Guest Editor
Special Issue: "Computer Vision and Sensors Innovations for Microscopy Imaging Applications"
www.mdpi.com/journal/sensors/special_issues/Microscopy_Imaging

Pharmaceutical Sciences and Biomedical Analysis Journal, Scientific Literature,
Editor since 01/09/2017
http://scientificliterature.org/pharmaceutical-sciences-editorial-board.html

Current Updates in Stem Cell Research and Therapy, OPR Science,
Editor, 01/02/2017 – 31/12/2019
http://oprscience.com/department/current-updates-in-stem-cell-research-and-therapy/

Biomedical Statistics and Informatics, Science Publishing Group,
Editor, 28/11/2016 – 31/12/2019
http://www.sciencepublishinggroup.com/j/bsi

SL Clinical And Medical Oncology, Scientific Literature,
Editor since 01/11/2016
http://www.scientificliterature.org/oncology-editorial-board.html#

Reviewer for

BioInformatics, Oxford University Press, ISSN: 1367-4803

BioMed Research International, Hindawi Limited, ISSN: 2314-6133

Analytical Biochemistry: Methods in the Biological Sciences, Elsevier, ISSN: 0003-2697

ASSAY and Drug Development Technologies, Mary Ann Liebert, Inc., ISSN:1540-658X

Biomedical Signal Processing and Control (BSPC), Elsevier. ISSN:1746-8094

J. of Biomaterials and Tissue Engineering (JBT), American Scientific Publishers, ISSN:2157-9083

Biological Procedures Online, BioMed Central, ISSN: 1480-9222

Micron, Elsevier. ISSN:0968-4328

Microscopy Research and Technique (MRT), John Wiley & Sons, Inc. ISSN:1097-0029

Signal, Image and Video Processing (SIVP), Springer. ISSN:1863-1711

Computer Methods and Programs in Biomedicine (CMPB), Elsevier, ISSN:0169-2607

Artificial Intelligence in Medicine, Elsevier, ISSN:0933-3657

Organisation of conferences/congresses/meetings/special-issues(society-activities

5th Italian Mesenchymal Stem Cell Group (GISM) annual meeting, October 20-21, 2022, Turin, Italy (*http://www.gismonline.it/*)

"XXII International Conference on Mechanics in Medicine and Biology (ICMMB)", Bologna, Italy, September 19–21, 2022. Chair of the Section "Machine Learning and AI", Tuesday 20/09/2022. *https://eventi.unibo.it/icmmb2022*

"GISM NEXT GENERATION", GISM section (Italian Mesenchymal Stem Cell Group). Founder and Organizing Committee Member, 01/01/2020-today: *https://urly.it/3fa38*

STEMNET2021 Conference, September 22-24, 2021, Padova, Italy (*https://stemnet.webnode.it/stemnet-meeting/*)

Special Issue: "Computer Vision and Sensors Innovations for Microscopy Imaging Applications", 03/11/2020-31/08/2021, Sensors (IF2019: 3.275), MDPI, website: *www.mdpi.com/journal/sensors/special_issues/Microscopy_Imaging*

1st Italian Mesenchymal Stem Cell Group (GISM) "Next Generation" webinar, October 22, 2020, format: live webinar (*www.gismonline.it*)

4th National School of Microscopy, April 14-17, 2019, IRST IRCCS, Meldola (FC), Italy (*www.scuoladimicroscopia.it*)

4th Italian Mesenchymal Stem Cell Group (GISM) annual meeting, April 4-5, 2019, Centro Congressi IST Nord - Ospedale Policlinico San Martino, Genova, Italy (*www.gismonline.it*)

3rd Italian Mesenchymal Stem Cell Group (GISM) annual meeting, April 12-13, 2018, Palazzo del Monte Frumentario, Assisi, Italy (*www.gismonline.it*)

3rd National School of Microscopy, October 12-14, 2016, Orthopaedic Rizzoli Institute, Bologna, Italy (*www.scuoladimicroscopia.it*)

2nd Italian Mesenchymal Stem Cell Group (GISM) annual meeting, October 20-21, 2016, Centre Pastorale Paolo VI, Brescia, Italy (*www.gismonline.it*)

1st Italian Mesenchymal Stem Cell Group (GISM) annual meeting, October 8-9, 2015, Centre Pastorale Paolo VI, Brescia, Italy (www.gismonline.it)

Teaching activities (as Professor)

Course	Assistant Professor (i.e. RTD-B), 00405 - PHYSICS - 6 cfu (teaching language: Italian), Faculty of Medicine - Ravenna, University of Bologna,
Date	2022/2023, first cycle, first year.
Notes	Lessons hold at the "Santa Maria Delle Croci" Hospital, Ravenna.
Course	Assistant Professor (i.e. RTD-B), 93064-Statistics (Module 2) CLEF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2022/2023, second cycle, second year, bachelor degree.
Notes	Programming language used: R.
Course	Adjunct Professor, 93064-Statistics (Module 2) CLEF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2021/2022, second cycle, second year, bachelor degree.
Notes	Programming language used: R.
Course	Adjunct Professor, 93064-Statistics (Module 2) CLEF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2020/2021, second cycle, second year, bachelor degree.
Notes	Programming language used: R.
Course	Adjunct Professor, 00819-Programming (Module 2) (teaching language: Italian), Faculty of Computer Science - Cesena, University of Bologna,
Date	2020/2021, first cycle, first year, bachelor degree.
Notes	Programming language used: C.
Course	Adjunct Professor, 76528-Laboratory of Computer Programming CLEF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2019/2020, first cycle, second year, bachelor degree.
Notes	Programming language used: R.
Course	Adjunct Professor, 00819-Programming (Module 2) (teaching language: Italian), Faculty of Computer Science - Cesena, University of Bologna,
Date	2019/2020, first cycle, first year, bachelor degree.
Notes	Programming language used: C.
Course	Adjunct Professor, 76528-Laboratory of Computer Programming CLEF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2018/2019, first cycle, second year, bachelor degree.
Notes	Programming language used: R.

Course	Adjunct Professor, 76528-Laboratory of Computer Programming QF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2018/2019, third cycle, first year, master degree.
Notes	Programming language used: Python.
Course	Adjunct Professor, 00819-Programming (A-L) (Module 2) (teaching language: Italian), Faculty of Computer Science - Cesena, University of Bologna,
Date	2018/2019, first cycle, first year, bachelor degree.
Notes	Programming language used: C.
Course	Adjunct Professor, 76528-Laboratory of Computer Programming QF (**teaching language: English**), Faculty of Economics, Management and Statistics - Bologna, University of Bologna,
Date	2017/2018, third cycle, first year, master degree.
Notes	Programming language used: Python.
Course	Adjunct Professor, 00819-Programming (A-L) (Module 2) (teaching language: Italian), Faculty of Computer Science - Cesena, University of Bologna,
Date	2017/2018, first cycle, first year, bachelor degree.
Notes	Programming language used: C.

Teaching activities (as Tutor)

Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2021/2022, first cycle, first year, bachelor degree.
Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2020/2021, first cycle, first year, bachelor degree.
Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2019/2020, first cycle, first year, bachelor degree.
Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2018/2019, first cycle, first year, bachelor degree.
Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2017/2018, first cycle, first year, bachelor degree.
Course	Tutor, 18067-Computer Science (teaching language: Italian), Faculty of Economics, Management and Statistics - Forlì, University of Bologna, Prof. Mauro Gaspari.
Date	2016/2017, first cycle, first year, bachelor degree.
Course	Tutor, 29227-Foundations of Informatics (teaching language: Italian), Mechanical Engineering - Bologna, University of Bologna, Prof. Ruben Scardovelli.
Date	2016/2017, first cycle, second year, bachelor degree.

Notes	Programming language used: C.
Course	Tutor, 29227-Foundations of Informatics (teaching language: Italian), Mechanical Engineering - Bologna, University of Bologna, Prof. Ruben Scardovelli.
Date	2015/2016, first cycle, second year, bachelor degree.
Notes	Programming language used: C.
Course	Tutor, 29227-Foundations of Informatics (teaching language: Italian), Mechanical Engineering - Bologna, University of Bologna, Prof. Jorge Eduardo Fernandez.
Date	2015/2016, first cycle, second year, bachelor degree.
Notes	Programming language used: FORTRAN.

Teaching activities (other)

Teaching Assistant	Tutor DM198/2003, Biomedical Engineering - Cesena, University of Bologna.
Date	2008/2009.
Notes	200 hours of assistance in teaching activities for courses without dedicated tutors.
High school teaching	Public secondary school teacher.
Dates	Several substitutions in the period 2005 – 2013.
Notes	Teacher in several high school institutes for laboratory of the following courses: Physics, Chemistry, Mathematics, Informatics, Electronics, Electrotechnics.
Visiting researchers	
3	Ervin Tasnadi, PhD Student in Computer Vision, Biological Research Centre (BRC), Hungarian Academy of Sciences, Szeged, Hungary; Topic: development of an application to segment and annotate single cells in 3D multicellular aggregates; Home-supervisor: Prof. Peter Horvath. Location: IRST IRCCS, Meldola (FC), Italy; Date of the stay: 27/08/2018-07/09/2018
2	Maria Harmati, PhD Student in Biology, Biological Research Centre (BRC), Hungarian Academy of Sciences, Szeged, Hungary; Topic: testing of several systems for the generation of cancer multicellular spheroids; Home-supervisor: Prof. Krisztina Buzas. Location: IRST IRCCS, Meldola (FC), Italy; Date of the stay: 05/11/2017-29/11/2017
1	Timea Toth, PhD Student in Bio-Engineering, Biological Research Centre (BRC), Hungarian Academy of Sciences, Szeged, Hungary; Topic: analysis of tools for extracting data from cancer multicellular spheroids; Home-supervisor: Prof. Peter Horvath. Location: IRST IRCCS, Meldola (FC), Italy; Date of the stay: 05/11/2017-29/11/2017
Co-supervisor of thesis works	
15	Matteo Belletti, University of Bologna, School of Computer Sciences, BS thesis, title: DS4H Image Alignment tool, allineamento multimodale automatico: sviluppo di modulo per ottimizzazione dei dati acquisiti ed estensione ad immagini a colori. Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini, Giovanni Martinelli, Gastone Castellani. Thesis defence: 1st December 2022
14	Marco Edoardo Duma, University of Bologna, School of Computer Sciences, BS thesis, title: DS4H Image Alignment: Modulo per allineamento multimodale automatico considerando deformazioni solide. Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini, Giovanni Martinelli, Gastone Castellani. Thesis defence: 27th May 2022
13	Sofia Belloni, University of Bologna, School of Computer Sciences, BS thesis, title: Implementazione in Linguaggio C++ in Versione Ottimizzata del tool Reconstruction and Visualization from a Single Projection (ReViSP). Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini, Giovanni Martinelli. Thesis defence: 7th October 2021

12	Miguel Sotomayor Gonzalez, University of Bologna, School of Computer Sciences, BS thesis, title: Analisi e sviluppo di una procedura di post-processing per immagini acquisite da telecamere in toni di grigio. Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini. Thesis defence: 18th March 2020
11	Stefano Belli, University of Bologna, School of Computer Sciences, MS thesis, title: Studio e realizzazione di un plugin per l'allineamento di immagini microscopiche. Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini. Thesis defence: 10th October 2019
10	Roberto Reda, University of Bologna, School of Computer Sciences, MS thesis, title: A semantic web approach to ontology-based system: integrating, sharing and analysing IOT health and fitness data. Supervisor: Antonella Carbonaro. Co-supervisors: Filippo Piccinini. Final score: 110 cum Laude. Thesis defence: 15th December 2017
9	Ilaria De Santis, University of Bologna, School of Biological Sciences, BS thesis, title: Confronto di sistemi per creazione *in vitro* di aggregati multicellulari tumorali: analisi bio-statistica. Supervisor: Fulvia Farabegoli. Co-supervisors: Alessandro Bevilacqua, Anna Tesei, Filippo Piccinini. Final score: 110 cum Laude. Thesis defence: 16th July 2014
8	Angeli Davide, University of Bologna, School of Biological Sciences, BS thesis, title: Sferoidi multicellulari creati *in vitro* via bioreattore: studio a breve e medio termine della omogeneità. Supervisor: Fulvia Farabegoli. Co-supervisors: Alessandro Bevilacqua, Wainer Zoli, Filippo Piccinini. Final score: 110 cum Laude. Thesis defence: 16th July 2014
7	Luigi Caiffa, University of Bologna, Faculty of Biomedical Engineering, MS thesis, title: Studio di classi di sferoidi multicellulari di carcinoma polmonare epidermoidale in radiobiologia. Supervisor: Alessandro Bevilacqua. Co-supervisors: Filippo Piccinini, Anna Tesei, Rolando Polico. Thesis defence: 21st March 2013
6	Ilaria Fantigrossi, University of Bologna, Faculty of Biomedical Engineering, BS thesis, title: Analisi temporale di caratteristiche morfometriche estratte da immagini di broncosfere sottoposte a differenti trattamenti rediobiologici. Supervisor: Alessandro Bevilacqua. Co-supervisors: Filippo Piccinini, Anna Tesei, Rolando Polico. Thesis defence: 11th October 2012
5	Andrea Giorni, University of Bologna, Faculty of Biomedical Engineering, MS thesis, title: Misure di segnali fluorescenti per l'analisi in microscopia dell'espressione genica in biologia sintetica. Supervisor: Emanuele Domenico Giordano. Co-supervisors: Alessandro Bevilacqua, Alessandro Gherardi, Filippo Piccinini, Francesca Ceroni. Thesis defence: 28th March 2012
4	Marco Marchetti, University of Bologna, Faculty of Biomedical Engineering, MS thesis, title: Segmentazione automatica di regioni in immagini istologiche. Supervisor: Alessandro Bevilacqua. Co-supervisors: Alessandro Gherardi, Filippo Piccinini, Wainer Zoli. Thesis defence: 28th March 2012
3	Davide Pollini, University of Bologna, Faculty of Biomedical Engineering, MS thesis, title: Ricostruzione di immagini di broncosfere in microscopia ottica con tecniche di estensione della profondità di fuoco. Supervisor: Alessandro Bevilacqua. Co-supervisors: Filippo Piccinini, Anna Tesei. Final score: 110 cum Laude. Thesis defence: 28th March 2012
2	Alessandro Cedioli, University of Bologna, Faculty of Biomedical Engineering, BS thesis, title: Acquisizione di immagini di broncosfere in radiobiologia. Supervisor: Alessandro Bevilacqua. Co-supervisors: Filippo Piccinini, Anna Tesei. Thesis defence: 28th March 2012
1	Carlo Busa, University of Bologna, Faculty of Informatics Engineering, MS thesis, title: Automatic detection of cancerous regions in histopathological images. Supervisor: Riccardo Rovatti. Co-supervisors: Alessandro Bevilacqua, Sara Bravaccini, Filippo Piccinini. Final score: 110 cum Laude. Thesis defence: 19th December 2011

Software tools developed and freely available

For programming I typically use one of the following languages: MATLAB, C/C++, JAVA.

Advanced Cell Classifier, for classifying cells in high-content screening images
http://www.cellclassifier.org

AnaSP, software suite to segment brightfield images of multicellular spheroids
http://sourceforge.net/projects/anasp

AND-Tool, Matlab tool for segmenting nuclei in 2D widefield images stained with DAB
http://sourceforge.net/projects/andtool/

CellTracker, for tracking in 2D cells cultured in vitro
http://celltracker.website

CIDRE, for correcting the illumination field of microscopy images
http://www.nature.com/nmeth/journal/v12/n5/full/nmeth.3323.html

Colour Deconvolution 2, ImageJ/Fiji plugin for stain unmixing in RGB histological images.
https://blog.bham.ac.uk/intellimic/g-landinisoftware/colour-deconvolution-2/

CometAnalyser, for quantitative comet assay analysis of silver stained and fluorescence images.
https://sourceforge.net/p/cometanalyser

DS4H Image Alignment, ImageJ/Fiji plugin for aligning images based on markers manually defined.
www.filippopiccinini.it/DS4H-IA.html

F-Tracker3D, for tracking in 3D fluorescent particles imaged with a confocal/light-sheet microscope
http://sourceforge.net/p/f-tracker3d

MicroMos, for building a panorama, starting from a set of overlapping images
http://www.filippopiccinini.it/Mosaicing/index.html

ReViMS, for cancer spheroids Reconstruction and Visualization using Multiple Sections
http://sourceforge.net/projects/revims

ReViSP, for cancer spheroids Reconstruction and Visualization using a Single Projection
http://sourceforge.net/projects/revisp

3D-Cell-Annotator, MITK plugin for segmenting single cells in 3D datasets.
www.3d-cell-annotator.org

English courses attended

Intensive personalized one-to-one English course in England.

Dates: June 9-15, 2013 (5 hours of lesson one-to-one a day per 5 days).

Organisation: English School: “Best In Bath”. Accredited by the British Council. Bath, England.

English Course in Switzerland, Level C1 – Advanced User.

Dates: May 23, 2011 - July 11, 2011 (14 lessons of 2 hours each).

Organisation: Klubschule Migros, Private Language Centre, Zurich, Switzerland.

English Course in Italy, B2 – Independent User.

Dates: September 27, 2010 - December 6, 2010.

Organisation: CLIRO, University Language Centre, Cesena (FC), Italy.

University exam, B2 – Independent User.

Date	March 20, 2007.
Organisation	Biomedical Engineering, University of Bologna, Cesena (FC), Italy.
	English Course in England, B2 – Independent User.
Dates	June 30, 2002 - July 13, 2002.
Organisation	EF Language Travel, London, England.
	English Course in England, A1 – Basic User.
Dates	July 26, 1999 - August 9, 1999.
Organisation	The British Council, London, England.

Conferences and courses

	5rd Annual Meeting of the Italian Mesenchymal Stem Cell Group (GISM).
Dates	October 20-21, 2022.
Location	Turin, Italia.
Notes	**Oral Communication**.
	Comprehensive Cancer Care and Research Network (CCCRN)
Dates	September 20-22, 2022.
Location	Musei San Domenico, Forlì (FC), Italy.
	7h Annual Meeting of the Alliance Against Cancer (ACC), online
Dates	September 21-23, 2022.
Location	Policlinic Hospital IRCCS "A. Gemelli", Rome, Italy.
Notes	Two works in form of poster.
	XXII International Conference on Mechanics in Medicine and Biology (ICMMB)
Dates	September 19–21, 2022.
Location	IRCCS Sant'Orsola Hospital, Bologna.
Notes	**2 Oral Communications** and **CHAIRMAN Session "*Machine Learning and AI*"**
	Straub Conference 2022.
Dates	May 25-27, 2022.
Location	Biological Research Centre (BRC), Szeged, Hungary.
Notes	1 work in form of poster.
	STEMNET Conference.
Dates	September 22-24, 2021.
Location	Padova, Italia.
Notes	**Oral Communication**.
	4th EACR Conference Goodbye Flat Biology.
Dates	November 10-13, 2019.
Location	Berlin, Germany.

Notes	Two works in form of poster.
	4th Annual Meeting of the Italian Mesenchymal Stem Cell Group (GISM).
Dates	April 04-05, 2019.
Location	Genova, Italy.
Notes	**Oral Communication**, and one work in form of poster.
	Confocal Microscopy Course
Dates	January 2019 (one-week course after acquisition of the microscope from IRST)
Location	Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (IRST) IRCCS, Meldola (FC), Italy
Note	Organized by **Nikon**. Main teacher: Dr. Giacomo Cozzi.
	Intelligent Systems Conference 2018 (IntelliSys2018).
Dates	September 06-07, 2018.
Location	London, UK.
Note	**Oral presentation.**
	8th International Digital Health Conference (DH'18).
Dates	April 23-26, 2018.
Location	Lyon, France.
Note	**Oral presentation.**
	3rd Annual meeting of the Italian Mesenchymal Stem Cell Group (GISM).
Dates	April 12-13, 2018.
Location	Assisi, Italy.
Notes	Two works in form of poster.
	FameLab 2017 intensive course for improving the public speaking of the 20 Italian finalists
Dates	April 7–9, 2017.
Location	POST (Perugia Workshop of Science and Technology), Perugia, Italy.
	4th International Conference Translational Research in Oncology and **1st Multidisciplinary Osteoncology School**
Dates	November 11–12, 2016.
Location	IRST- IRCCS, Meldola, Italy.
	2nd Annual meeting of the Italian Mesenchymal Stem Cell Group (GISM).
Dates	October 20-21, 2016.
Location	Brescia, Italy.
Notes	Two works in form of poster.
	3rd Italian School of Microscopy.
Dates	October 12-14, 2016.
Location	Orthopaedic Rizzoli Institute, Bologna, Italy
Notes	Sponsored by **Nikon**. Main topic: super resolution. I was in the **organization committee**.

	Guest researcher to the Leica Microscopy Center
Dates	September 18-19, 2016.
Location	Mannheim, Baden-Württemberg, Germany.
Notes	Invited to test the **Leica** Light Sheet Microscope with our 3D cancer spheroids.
	Guest researcher to the Carl ZEISS MICROSCOPY GmbH
Dates	March 3-4, 2016.
Location	Munich, Bavaria, Germany.
Notes	Invited to test the **Zeiss** Light Sheet Microscope with our 3D cancer spheroids.
	1st Annual meeting of the Italian Mesenchymal Stem Cell Group (GISM).
Dates	October 8-9, 2015.
Location	Brescia, Italy.
Notes	**Oral Communication**, and three works in form of poster.
	XXXIV annual school of Bio-engineering.
Dates	September 21-24, 2015.
Location	Bressanone (BZ), Italy.
	27th annual congress Italian Association Cell Culture (ONLUS-AICC) & 5th International Satellite Italian Mesenchymal Stem Cell Group (GISM).
Dates	November 12-14, 2014.
Location	Verona, Italy.
Notes	**Oral Communication**, and three works in form of poster.
	4th IEEE International Conference on Image Processing Theory, Tools and Applications (IPTA 2014).
Dates	October 14-17, 2014.
Location	Paris, France.
Notes	**Oral Communication**.
	4th Congress Gruppo Nazionale Bioingegneria (GNB 2014).
Dates	June 25-27, 2014.
Location	Pavia, Italy.
Notes	I presented one work in form of a poster.
	1st Italian School of Microscopy.
Dates	March 5-7, 2014.
Location	Orthopaedic Rizzoli Institute, Bologna, Italy
Notes	Sponsored by Nikon. Main topic: live imaging.
	26th annual congress Italian Association Cell Culture (ONLUS-AICC) & 4th International Satellite Italian Mesenchymal Stem Cell Group (GISM).
Dates	November 20-22, 2013.
Location	Brescia, Italy.
Notes	I presented two works in form of a poster.
	1st International Conference MiMe-Materials in Medicine.
Dates	October 8-11, 2013.

Location	Faenza, Ravenna, Italy.
Financing	Grant financed by CNR and ISTEC-Faenza, Italy.
Notes	**Oral Communication**
	8th World Conference on The Future of Science. Nanoscience Society, Fondazione Umberto Veronesi.
Dates	September 16-18, 2012.
Location	Venezia, Italy.
Financing	Granted by the University of Bologna, Italy.
	33rd annual IEEE international conference Engineering in Medicine and Biology Society (EMBS 2011).
Dates	August 30, 2011 - September 3, 2011.
Location	Boston, Massachusetts, USA.
Notes	I presented two works in form of poster.
	IEEE SSCI Conference, symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB 2011).
Dates	April 11-15, 2011.
Location	Paris, France.
Notes	I presented two works in form of poster.
	CIMST 2010 Interdisciplinary Summer School on Bio-medical Imaging.
Dates	September 6-17, 2010.
Location	Swiss Federal Institute of Technology Zurich (ETH), Zurich Center for Imaging Science and Technology (CIMST), Zurich, Switzerland.
Notes	Only 50 selected participants were admitted to attend the summer school. I presented one work in form of a poster.
	ICVSS 2010 International Computer Vision Summer School.
Dates	July 12-17, 2010.
Location	University of Catania, Scicli (Ragusa), Italy.
Notes	I presented one work in form of a poster.

Other experiences

	Exam for entrance in the Italian Register of Engineers
Dates	January 07, 2019 (date of the fourth and last test of the second call for 2018)
Organization	University of Bologna
Note	1st test score: 40/60, 2nd test score: 57/60, 3rd test score: 57/60, 4th test score: 39/60. Accepted.
	European Night of Researchers 2018.
Dates	28th September 2018, Forli
Main activity	I organized a public show for children and adults about “microscopes and applications”
Organization	http://nottedeiricercatori-society.eu/edizione2018/aspettando-la-notte-2018/
	International FameLab talking science competition 2017.
Date	24th March 2017

Score	Winner of the local selection (10 candidates)!
Main activity	International competition with seminars with theatre directors, psychologists and famous public speakers to learn how to speak in front of a public.
Organization	FameLab Italy (http://www.famelab-italy.it)
	European Night of Researchers 2015.
Dates	25th September 2015, Bologna
Main activity	I organized a public show for children and adults about “microscopes and applications”
Organization	https://eventi.unibo.it/notte-ricercatori-2015
	International FameLab talking science competition 2015.
Dates	4th March 2015 seminars and 11th March 2015 pre-selection and local final.
Score	Selected as one of the 10 local finalists (36 candidates).
Main activity	International competition with seminars with theatre directors, psychologists and famous public speakers to learn how to speak in front of a public.
Organization	FameLab Italy (website: http://famelabbo.bo.imm.cnr.it)
	Biomedical Engineer Trainee.
Dates	April 20, 2009 - May 22, 2009.
Main activity	Development of techniques for image acquisition and processing; assessment of the quality of several cell counters.
Organization	Bone Regeneration Laboratory, Istituto Ortopedico Rizzoli, Bologna, Italy.
Supervisors	Prof. Alessandro Bevilacqua and Dr. Enrico Lucarelli.
	Electrician Trainee.
Dates	July 5, 2003 - July 19, 2003.
Main activity	Maintenance of electrical panels.
Organization	Alfing Kessler Sondermaschinen, Aalen, Germany.

Local show presenter and public event planner

Wedding planner	Planning and entertainment of weddings, since 2019
Presenter	Show “Faenza Rock Festival 2008”, Faenza (RA), Italy
Presenter	Show “Pisciniadi 2009: funny water games competition”, Tontola (FC), Italy
Presenter	Show “Pisciniadi 2008: funny water games competition”, Tontola (FC), Italy
Presenter	Show “Pisciniadi 2007: funny water games competition”, Faenza (RA), Italy
Presenter	Show “Pisciniadi 2006: funny water games competition”, Faenza (RA), Italy
Event planner	Summer season 2009, Disco-club Indie, Cervia (RA), Italy
Event planner	Summer season 2008, Disco-club Panighina, Cesena, Italy
Event planner	Winter season 2008, Disco-club Click-Rock, Forlì, Italy
Event planner	Winter season 2007, Disco-club Click-Rock, Forlì, Italy
Event planner	Winter season 2006, Disco-club Click-Rock, Forlì, Italy

Recommendations

- Prof. Alessandro Bevilacqua. Professor of Informatics, Bio-image processing, Image processing. Leader of the research group “Computer Vision Group (CVG)”, University of Bologna. Supervisor of my PhD and my master thesis. Email: alessandro.bevilacqua@unibo.it. Phone: +390512095409

- Prof. Peter Horvath. Professor of Image processing. Leader of the research group “Biological Image Analysis and Machine Learning Group (BIOMAG)”, Biological Research Centre (BRC), Hungarian Academy of Sciences, Szeged, Hungary. Supervisor of my research activities during my stays in ETH Zurich and BRC Szeged. Email: horvath.peter@brc.mta.hu. Phone: +3662599654

- Prof. Antonella Carbonaro. Professor of Informatics. Leader of the research group “Data Science For Health (DS4H)”, University of Bologna. My supervisor for the Teaching Activities at the University of Bologna. Email: antonella.carbonaro@unibo.it. Phone: +390547338830

- Prof. Mauro Ursino. Programme Director of the First Degree and the Master Degree in Biomedical Engineering, University of Bologna. Professor of Neural Networks, University of Bologna. Co-Supervisor of my PhD and my master thesis. Email: mauro.ursino@unibo.it. Phone: +390512093073

- Prof. Kevin Smith. Professor of Image processing. KTH Royal Institute of Technology, School of Computer Science and Communication, Stockholm, Sweden. Co-supervisor of my research activities during my stays in ETH Zurich. Email: ksmith@kth.se. Phone: +46852481246

- Dr. Gábor Csúcs. Director of the Light Microscopy and Screening Center, ETH, Zurich, Switzerland. He provided me with a 7-month grant for the period spent in his Center, happily ended in a shared publication in Nature Methods. Email: csucs@lmc.biol.ethz.ch. Phone: +41446336221

- Dr. Enrico Lucarelli. Director of the Bone Regeneration Laboratory, Istituto Ortopedico Rizzoli, Bologna, Italy. Coordinator and Secretary of the Gruppo Italiano Staminali Mesenchimali (GISM). Referee of my trainee during the master thesis and co-supervisor of my master thesis. Email: enrico.lucarelli@ior.it. Phone: +390516366595

- Dr. Anna Tesei. Head of the Drug Discovery and Radiobiology Unit, Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (IRST), IRCCS, Meldola (FC), Italy. Collaborator for many shared projects. Email: anna.tesei@irst.emr.it. Phone: +390543739227.

- Dr. Anna Sarnelli. Director of the Medical Physics Unit, Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (IRST), IRCCS, Meldola (FC), Italy. I worked in her Unit for 2 years. Now we are collaborators for projects on Radiomics in SPECT, PET, MR, and CT images. Email: anna.sarnelli@irst.emr.it. Phone: +390543739921.

- Prof. Emanuele Giordano. Professor of Biochemistry, Director of the Laboratory of Cellular and Molecular Engineering “S. Cavalcanti”, Faculty of Biomedical Engineering, University of Bologna. Collaborator for many shared projects. Email: emanuele.giordano@unibo.it. Phone: +390547339251.

- Prof. Stefano Lazzari. Professor of Fluid Dynamics, Technical Physics, Computational Term Fluid Dynamics, University of Bologna. Supervisor of my bachelor thesis. Email: stefano.lazzari@unibo.it. Phone: +390512093383.

Personal skills and competences

Competences in Biology	Wide experience in planning and managing biological experiments on monolayer and three-dimensional cell cultures. Practical abilities to conduct wetlab routine operations. I typically plan and lead personally the biological experiments of my research, assuming the responsibility of the outcome.
Computer skills and competences	I’m an expert user of MATLAB and HTML. Regular user of FORTRAN, C/C++, JAVA, Python, R. Basis of PLC. I commonly use different CAD, simulation programs, advanced software and word processors: GIMP, SketchUp, Adobe Illustrator. I am an expert user of many microscope programs and imaging processing tools: AxioVision (Zeiss), NIS-Elements (Nikon), MetaMorph (Molecular Devices), ImageXpress (Molecular Devices), CellProfiler, ImageJ.

Internet skills and competences	I'm a good web designer. I have built 4 websites for: - Mesenchymal Stem cells Italian Group (www.gismonline.it) - CellTracker official webpage (www.celltracker.website) - Advanced Cell Classifier official webpage (www.cellclassifier.org) - myself (www.filippopiccinini.it) To design websites I strongly suggest Joomla!
Other skills and competences	Patent BLSD (Basic Life Support Defibrillation), obtained the 10/29/2018 after a two-day course and an exam organized by the Italian Red Cross association. I'm an active member of AVIS, the biggest Italian society of blood donors. I was a football goalkeeper and I have many years of experience as a goalkeeper coach. Since 2022 I'm a Dancing Teacher (diploma number 3456) for Latin Music (Cuban Salsa and Bachata). In my spare time I work as presenter of shows and local events. I love public speaking!
Driving licences	B and A1 (experiences of left- and right-driving).

Additional information

	www.filippopiccinini.it

I authorize the use and collection of my personal data according to the Art.13 of the Italian Legislative Decree n. 196/2003.

Bologna, 24-Feb-23