

Curriculum Vitae

Personal information

First name(s) / Surname(s) **Manuela Chessa**
Address(es) Via G. Da Verrazzano 159, 16165 Genova, Italy
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E-mail manuela.chessa@unige.it
Website(s) pilab.unige.it
Nationality Italian
Date of birth 02/10/1980
Gender Female

Occupational field

Work experience

30/11/2022 – present Associate Professor INF/01
Name and address of employer University of Genoa – Italy
DIBRIS - Dept. of Informatics, Bioengineering, Robotics, and Systems Engineering
Occupation or position held **Teaching:**
Fondamenti di Informatica, LT Ing. Biomedica, 60 hours
Software technologies for HCI, LM Computer Science and Bioengineering , 24 hours
Augmented Reality, LM Computer Science, 24 hours
Higher Education & Training skills
Member of the Eval. Committee of PhD Dissertation at University of Genoa – Italy
Member of the Eval. Committee of PhD Dissertation at Univ. of Southern Denmark (2018)
Member of the PhD Board - Computer Science and Systems Engineering, University of Genoa – Italy
PhD Course Theory and Practice of Virtual Reality Systems
PhD Course C++ Programming Techniques
Supervisor of 4 PhD Students (PhD program CSSE at University of Genoa – Italy)
Other
Member of the Scientific Board of SimAV (Centro di Simulazione Avanzata), University of Genoa – Italy
30/11/2019-29/11/2022
Occupation or position held Assistant Professor (RTD-B)
Italian (INF/01 and ING/INF05) abilitation as Associate Professor (II Fascia)
Name and address of employer University of Genoa - Italy
DIBRIS - Dept. of Informatics, Bioengineering, Robotics, and Systems Engineering

16/06/2017 – 29/11/2019
 Occupation or position held Assistant Professor (RTD-A)
 Name and address of employer

02/03/2009 – 15/06/2017
 Occupation or position held Post-doc researcher (Assegnista di Ricerca)
 Name and address of employer University of Genoa - Italy

Education and training

2009
 Title of qualification awarded PhD in Bioengineering
 Principal subjects/occupational skills covered Thesis: “ Context-sensitive Receptive Fields for the Analysis of the Visual Motion: Models and Processing Architectures”
 Name and type of organisation providing education and training University of Genoa – Italy

2005
 Title of qualification awarded Master Degree (MSc) in Bioengineering
 Name and type of organisation providing education and training University of Genoa – Italy

2002
 Title of qualification awarded Bachelor Degree in Biomedical Engineering
 Name and type of organisation providing education and training University of Genoa – Italy

Personal skills and competences

Mother tongue(s) Italian

Other language(s)

Self-assessment

European level ()*

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
X	C1	X	C1	X	C1	X	C1	X	C1
X	B1	X	B1	X	A2	X	A2	X	A2

(*) [Common European Framework of Reference for Languages](#)

Organisational skills and competences

PNRR/PNC Activities

Fit4MedRob - (Fit for medical robotics): 44 mesi per rivoluzionare i modelli assistivi e riabilitativi

Activity Leader Activity7 – Mission2

Status: ongoing

EU/National Projects

PRIN2022: BRAVE – Biofeedback-based peRsonAlised Virtual-reality Exposure therapies for anxiety disorders PIs: Alberto Greco (UniPi) and Manuela Chessa (UniGe)

Status: ongoing

Past projects

ALCOTRA PITEM - PRO-SOL (Scientific Leader of projects “Donne” and “Prossimità”)

VREAD "A new augmented reading experience in virtual reality making reading enjoyable again for low vision people", funded by Université Cote d’Azur (UCA), call “Pre-maturation”

UE FP7-ICT “EYESHOTS” (Heterogeneous 3-D Perception Across Visual Fragments)

https://cordis.europa.eu/project/rcn/85563_en.html

UE FP7-ICT “SEARISE” (Attending and Recognizing Instances of Salient Events)

https://cordis.europa.eu/project/rcn/85425_en.html

UE FP6-FET “DRIVSCO” (Learning to Emulate Perception-action Cycles in a Driving School Scenario) https://cordis.europa.eu/project/rcn/92921_en.html

UE FP6-NEST-Adventure “MCCOOP” (Multichannel Cooperativity in Visual Processing)

https://cordis.europa.eu/project/rcn/74745_en.html

PRIN 2008 (Modelli bio-ispirati per il controllo dei movimenti oculari nella visione attiva e l'esplorazione 3D)

PRIN 2005 (Computational and neural mechanisms of sensorimotor learning and control)

PAR-FAS 2007-2013 “ARIANNA” (regione Liguria)

Other research activities/collaborations

INFN Genova – Project SkinScan Dr. Maria Grazia Pia

AWARE - Digital Twin and Industrial Internet of Things for Manufacturing 4.0 (with CETENA S.p.A. e FOS S.p.A., FINCANTIERI S.p.A., FINCANTIERI SI S.p.A., DE MA SRL, IROI SRL, Smart Track SRL, DOCSPACE SRL)

Research within “CasArte” project (with ARTE Genova)

Infrastructure Cyber Monitoring – CYMON (with CETENA SpA)

Publications:

Publication summary: 29 journal papers, 73 peer-reviewed conference papers.
H-index: 18 (Scopus), 22 (Scholar). Citations: 846 (Scopus), 1308 (Scholar).

Selected pubs:

- Viola, E., Martini, M., Solari, F., & Chessa, M. (2024). IMMERSE: IMMersive Environment for Representing Self-Avatar Easily. In 2024 IEEE Gaming, Entertainment, and Media Conference.
- Hussain, R., Chessa, M., & Solari, F. (2023). Improving Depth Perception in Immersive Media Devices by Addressing Vergence-Accommodation Conflict. *IEEE Transactions on Visualization and Computer Graphics*.
- Bassano, C., Chessa, M., & Solari, F. (2023). Visual working memory in immersive visualization: a change detection experiment and an image-computable model. *Virtual Reality*, 27(3), 2493-2507.
- Bassano, C., Chessa, M., & Solari, F. (2022). Visualization and Interaction Technologies in Serious and Exergames for Cognitive Assessment and Training: A Survey on Available Solutions and Their Validation. *IEEE Access*, 10, 104295-104312.
- Chessa, M., & Solari, F. (2021). The sense of being there during online classes: analysis of usability and presence in web-conferencing systems and virtual reality social platforms. *Behaviour & Information Technology*, 40(12), 1237-1249.
- Ballestin, G., Chessa, M., & Solari, F. (2021). A registration framework for the comparison of video and optical see-through devices in interactive augmented reality. *IEEE Access*, 9, 64828-64843.
- Manuela Chessa, Hussain, R., Chessa, M., & Solari, F. (2021). Mitigating cybersickness in virtual reality systems through foveated depth-of-field blur. *Sensors*, 21(12), 4006.
- Chessa, M., Bassano, C., & Solari, F. (2021). A WebGL Virtual Reality Exergame for Assessing the Cognitive Capabilities of Elderly People: A Study About Digital Autonomy for Web-Based Applications. In *International Conference on Pattern Recognition* (pp. 163-170). Springer, Cham.
- Maiello, G., Chessa, M., Bex, P. J., & Solari, F. (2020). Near-optimal combination of disparity across a log-polar scaled visual field. *PLoS computational biology*, 16(4), e1007699.
- Valentini, I., Ballestin, G., Bassano, C., Solari, F., & Chessa, M. (2020). Improving obstacle awareness to enhance interaction in virtual reality. In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)* (pp. 44-52). IEEE.
- Chessa, M., Maiello, G., Borsari, A., & Bex, P. J. (2019). The perceptual quality of the oculus rift for immersive virtual reality. *Human-computer interaction*, 34(1), 51-82.
- Chessa, M., & Solari, F. (2019). A computational model for the neural representation and estimation of the binocular vector disparity from convergent stereo image pairs. *International journal of neural systems*, 29(05), 1850029.
- Chessa, M., Noceti, N., Odone, F., Solari, F., Sosa-García, J., & Zini, L. (2016). An integrated artificial vision framework for assisting visually impaired users. *Computer Vision and Image Understanding*, 149, 209-228.
- Canessa, A., Chessa, M., Gibaldi, A., Sabatini, S. P., & Solari, F. (2014). Calibrated depth and color cameras for accurate 3D interaction in a stereoscopic augmented reality environment. *Journal of Visual Communication and Image Representation*, 25(1), 227-237.
- Chessa, M., Solari, F., & Sabatini, S. P. (2013). Adjustable linear models for optic flow based obstacle avoidance. *Computer Vision and Image Understanding*, 117(6), 603-619.
- Solari, F., Chessa, M., Garibotti, M., & Sabatini, S. P. (2013). Natural perception in dynamic stereoscopic augmented reality environments. *Displays*, 34(2), 142-152.

See all the publications at:

https://scholar.google.com/citations?hl=it&user=Rlc6k70AAAAJ&view_op=list_works&authuser=1&sortby=pubdate

Patents:

F. Solari, M. Chessa, R. Hussain, Metodo basato sulla sfocatura inversa per dispositivi multimediali immersivi per attenuare il conflitto Vergenza/accomodamento, patent n. 102022000022278, 14th October 2024.

M. Chessa, F. Solari, M. Garibotti, S.P. Sabatini, Rappresentazione stereoscopica tridimensionale perfezionata di oggetti virtuali per un osservatore in movimento. Assignee: University of Genoa. Italian Patent application TO2011A001150, 14th December 2011.

M. Chessa, F. Solari, M. Garibotti, S.P. Sabatini. Improved three-dimensional stereoscopic rendering of virtual objects for a moving observer. Assignee: University of Genoa. International Patent application PCT/IB2012/057284, 13th December 2012.

M. Chessa, F. Solari, M. Garibotti, S.P. Sabatini, A. Novellino, M. Ventrella. Apparecchiatura per la visione olografica virtuale Assignee: University of Genoa and ETT SpA. Italian Patent application TO2014A000235, 21st March 2014.

Software:

P. Kornprobst, E. Castet, M. Chessa, & F. Solari VRead Viewer (Depot. 7/07/2017)

F. Solari, M. Chessa. Log-polar BlindSpotModel – Software modules for OpenCV library

M. Chessa, F. Solari. FFV1MT: A V1-MT feedforward architecture for optical flow estimation – Matlab code

Other skills and competences

Dissemination activities in the field on VR/AR/HCI:

2024 Tutorial HealthXR at IEEEVR2024
2023 Tutorial CAIVARS at ISMAR2023
2022 Tutorial CAIVARS at ISMAR2022
2021 Tutorial CAIVARS at ISMAR2021
2020 Tutorial CAIVARS at ISMAR2020
2020 Workshop AVHRC at RO-MAN2020
2019 Tutorial AVHRC at ICVS2019
2018 Tutorial CAIVARS at ISMAR2018
2017 Workshop NIVAR at ICIAP2017
2017 Tutorial AVHRC at ICIAP2017
2017 Tutorial at VISAPP2017
2016 Special Session VISION4HCI at VISAPP2016
2015 Meeting BMVA

Invited talks:

2024 – International Seasonal School Fit4MedRob – Rome, Italy
2024 - International Summer School on eXtended Reality Technology and eXperience @UC3M Spain
2023 – ReDiGitS Workshop at IEEEVR23
2022 – XR & Robotics Workshop at IROS 2022
2022 – Symposium “Perception and (inter)actions in the real world and XR: Virtually the same or really different?” at ECVP2022 (Prof. Constanze Hesse, Martin Giesel)
2021, 2022, 2023 – Guest Lecture for Univ. Milano Bicocca (Dept. Of Psychology)
2020 - Guest Lecture for Norwegian Univ. of Science and Technology (Prof. E. Prasolova-Førland)
2020 - Biovision Lab, INRIA Sophia Antipolis (Prof. P. Kornprobst)
2019 - Univ. Milano Bicocca (Prof. M.T. Guasti)
2018 - University of Southern Denmark (Prof. N. Kruger).
2018 - Laboratoire I3S, CNRS Sophia Antipolis (Prof. L. Sassatelli)
2015 - UC Berkeley (Bank’s Lab, Prof. M. Banks)

Collaborations

Dr. P. Kornprobst and Dr. Bruno Cessac, INRIA Sophia Antipolis
Prof. P. Bex, Dep. of Psychology, Northeastern University, Boston
Dr. F. Bremond, INRIA Sophia Antipolis Méditerranée
Dr. C. Bartolozzi and Dr. Gabriel Baud-Bovy, IIT
Dr. Dimitri Ognibene, Univ. Milano Bicocca
Dr. Guido Maiello, University of Southampton, UK

Qualifications

2023 – Italian qualification for the position of Full Professor (I level) in Computer Engineering (Italian ASN I fascia – 09/H1)

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Date 26/11/2024 Signature

