CV date	12/06/23

Part A. PERSONAL INFORMATION

First and Family name	Simone Tassani		
Social Security, Passport, ID number	NIE: Y3407287N	Age	43
Researcher codes	WoS Researcher ID *(*)*	B-2076-2018	
	SCOPUS Author ID*(*)*	16033350500	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-8652-2314	

A.1. Current position

Name of University/Institution	Universitat Pompeu Fabra (UPF)			
Department	Department of Information and Communication Technologies			
Address and Country	Tanger 122, 08018 Barcelona			
Phone number		E-mail	tassani.simone@gmail.com	
Current position	Lecturer		From	01/06/2023
Keywords	Trabecular bone, classification techniques, statistical models, osteoarthritis, osteoporosis, movement analysis, breathing, posture.			

A.2. Education

Education	University	Year
Philosophy Certificate Program	Eindhoven University of Technology	2012
Ph.D. in Biomedical Engineering	Alma Mater Studiorum, University of Bologna	2009
Master of Science in Biomedical Engineering	Alma Mater Studiorum, University of Bologna	2005
Erasmus Biomedical Engineering,	University of Patra, Greece	2002
Bachelor degree in Biomedical Engineering	Alma Mater Studiorum, University of Bologna	2002

A.3. JCR articles, h Index.

- Total number of papers published in internationally indexed journals: **27**
- Number of publications Q1 (JCR): **10 – of which 2 D1**

Scopus

Based on a query on Scopus consulted on the 12th of June 2023 and based on 38 published items totaling 1099 citations, **552 citations in the last 5 years**, and an **h-index of 12**.

GoogleScholar.

Based on a query to the Google Scholar consulted on 12th of June 2023 and based on 68 published items totaling 2218 citations, **1300 citations in the last 5 years**, and **an h-index of 13**.

Part B. Possible future initiative in the framework of ESB-ITA

We are leaving a time of global challenges in which science is playing a fundamental role. Nonetheless, in many cases, science is ignored or mocked, and pseudoscience is presenting itself as an alternative. As amusing as it can be when look at from the position of a scholar, pseudoscientific societies are enrolling an alarming number of members.

Scholars, especially students, must be able to defend their work and recognize science from pseudoscience which is often much more difficult to recognize than expected. The increasing number of non-reproducible papers today published in internationally indexed journals is an example of how pseudoscience can hide within science. This situation is developed with the assistance of a society that is not willing to correct itself anymore, as demonstrated by the terrible difficulty in finding peer reviewers, even for well-established editors.

Every society must play its role. Smaller, more flexible, societies can be more receptive to the promotion of these concepts and propagate them to their bigger counterparts.

My proposal is to introduce and promote seminars and workshops on ethics and "good practice" in research and in publications for both Ph.D. students and senior researchers in order to promote a healthy attitude in the society.

Part C. CV SUMMARY

Multidisciplinary science needs the collaboration of specialists from different fields of experience; however, the union between different fields is a field of study itself. For this reason, during my career, I tried to widen my expertise even if acquiring new knowledge inherently has a cost in scientific production. I have a biomechanics background (**PhD at university of Bologna**) with specialization in trabecular bone microstructure, its mechanical behaviour, and remodelling in pathologies like osteoarthritis and osteoporosis (projects **LHDL** and **BIODEXA**), and influence of gait and posture (**HOLOA**, P.I. of **sMART-O** and **STRATO**). With my work, I am studying the influence of breathing over posture, and management of stress, pain, and fear (**sMART-O,** P.I.-**BYMBOS,** and **STRATO**) exploring the possibilities of middle-out and dynamic modeling and the capability to minimize the energy required during a specific task through relaxation.
Given the importance of data science, I added to my skills classification procedures (P.I. **MOSAIC**) and inferential statistics for multifactorial and multidimensional analysis and the design of experiments. These are also topics of the classes I teach for bachelor, master, and Ph.D. students. I also included ethics in my specializations. During my post-doc period, I attended Philosophy Certificate Program on bioethics at TUe, Eindhoven, and I attended workshops and lessons on Ethics and Personal Data Protection in Research organized by UPF. This is a transversal topic of importance when working with human volunteers but also in data analysis. In fact, strong ethical issues are rising nowadays in data analysis, reducing the repeatability of many publications, an important topic on which I have also published a book chapter (Casacubierta and Tassani 2019).
In addition, my unique combination of backgrounds (ethics, data science and machine learning, biomechanics, and motion capture) is increasing my collaborations. Collaborations taught me that knowledge can be connected between very different topics following a common path. In this sense is fruitful to share personal knowledge because what we give for granted in our specialization can be a complete breakthrough in other fields.
Following this philosophy, I started the project BYMBOS where I coordinated 12 researchers and students divided into three different teams specialized in data science for biomechanics (BCN MedTech - UPF), technology for education (TIDE – UPF) and Neuroscientists (UAB), and STRATO, where I am coordinating a team of gait acquisition and data science for biomechanics (BCN MedTech - UPF) clinicians and psychologists (Hospital del Mar).
Finally, I always kept in contact with companies looking for the final application of my research. During the years I collaborated with 6 different companies in 4 different countries. Datalogic and BTS Engineering in Italy, Bruker MicroCT in Belgium, Galgo Medical and CETIR in Spain, and Cosinuss in Germany.

Part D. RELEVANT MERITS

D.1. Research projects and grants

Five Selected projects

1. Title: **STRATO:** Advanced stratification of patients with osteoarthritis, according to pain, biomechanics, and cartilage biology. PI: **Simone Tassani;** Funding entity: MINECO; Duration 01/09/2022 – 31/08/2025 Total amount (in euros): 128.000,0 €;
2. Title: **BYMBOS: B**reathing D**y**namic **M**odelling for **Bo**dy Mind Interaction in **S**tudents. PI : **Simone Tassani;** Funding entity: UPF Total amount (in euros): 20.000,0 €;
3. Title: **HOLOA:** Exploración Clinica y virtual de pacientes para la descripcion holística y objetiva de los mecanismos de progresión de la artrosis. PI: Miguel A. Gonzalez Ballester; Funding entity: MINECO Total amount (in euros): 434.390,0 € Applicant's contribution: The applicant had a central role as a junction among the work packages of the Project and was directly responsible for movement analysis, statistical analysis, and final interpretation of results.
4. Title: **sMART-O**: Modelling and gait Analysis for Rehabilitation through Tai chi in Osteoarthritis: classification of gait analysis for prediction and prevention of the pathology. PI: **Simone Tassani;** Funding entity: AGAUR - Generalitat de Catalunya Total amount (in euros): 85.022 €

5. Title: **MOSAIC**: Method of Osteo-fracture Study through Automatic Identification and Classification: biomechanical analysis of bone trabecular structure PI: **Simone Tassani;** Funding entity: European Commission Total amount (in euros): 146.497,4€

D.2. Institutional Responsibilities

I am lecturer at Universitat Pompeu Fabra. I give "design of experiment seminars" for PhD students, Data Science and Research Methodology for Master students, Biomechanics, Optical Engineering, Statistical Models, and Numerical Methods for bachelor students. I was the reviewer of two Ph.D. theses from the National University of Colombia, Medellin, Colombia. I was twice invited to be the topic editor for "Frontiers in Bioengineering and Biotechnology" IF=6.064 of which I am also a review editor. I was a member of the Scientific Panels for both the Italian Ministry of Health for Biomedical research (2022) and the Spanish Agency of research (2023)
As lecturer at UPF I supervised 12 bachelor theses, of which one was awarded as best final year project, and 7 master theses in Biomedical Engineering of which 4 were presented to international conferences and one was selected as best work at the national chapter of the European Society of Biomechanics. I also co-supervised one chapter of a Ph.D. thesis: "From pixels to particles: multi-physics meshless model of the heart - Sensitivity analysis of the meshless model and its dimensional reduction."

D.3 memberships of scientific societies

Since 2008 member of the European Society of Biomechanics (ID: 791) and a member of the Spanish and Italian chapters of the same society.

D.4 Awards and recognitions

My achievements were officially recognized a number of times. The work of Ruiz et al. I have co-authored, won the Spanish Chapter award from the European Society of Biomechanics, and was also awarded at the conference of "Sociedad Española de Investigación Ósea y del Metabolismo Mineral" and in 2017 was an invited presentation at the world conference of biomechanics held in Dublin, Ireland. The work of my master student won a Special Mention of Excellence from the Spanish Chapter of the ESB, and a bachelor student was awarded the prize for the best bachelor thesis of UPF in 2019. I was the tutor of both students and supervisor for their thesis. Finally, the work I co-authored on the estimation of cells in the human body (Bianconi et al 2013) was recommended by F1000 as an article of special significance in its field.

D.5 Technological transfer

During my career, I collaborated with 6 different companies in Italy, Belgium, Spain, and Germany in technological transfer projects or the development of new protocols. Datalogic, Italy, for implementation of hand-held technology in an orthopedic ward. Bruker MicroCT in Belgium with which I collaborated for several years for the development of new MicroCT protocols, Galgo Medical and CETIR, Spain, for the development of a classifier for the prediction of femur fracture. Cosinussº, Germany, for the development of a classifier able to discriminate gait from run using in-ear sensors, and BTS Engineering in Italy for the development of new gait and posture protocols.