



YOUR PRIVATE SPACE AND TIME

di Enrico De Angelis

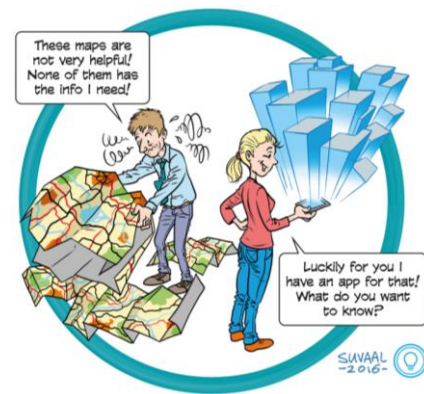
Francesca Noardo is a young Italian researcher, now in the Netherlands (TUDelft) for a MarieCurie funded post-doc in the field of spatial data, dealing with how to elicit information from Built Environment data (even wisdom, see [DIKW pyramid](#)). If interested in her topics, you may start looking in the site of [3D geoinformation group](#) and in Francesca's [page](#); nevertheless, spatial data applications is not the reason for which I am introducing her to you, but a post she wrote, last year (here ->).

Francesca started her PhD @polito while wheaning her daughter, who is now eight years old and a strict reviewer of all her presentations, since she was preparing her PhD Thesis defence. So, I asked her (the mother), how was being a mother and a doctoral student, in the same time. In our PhD school, the number of mothers and fathers growing children is not negligible, but – not only in jokes and in cartoons – it is always considered a heroic challenge.

«To find a balance between working and private life is not impossible» she answered me. «I know that I have been lucky, because I was really helped by the empathy of my supervisor and my colleagues, all supporting me with flexibility, and of course, by my husband». But the point, for Francesca, is another: on one side, «being a mother trained me in managing my time and the time and the work of those I had to interact with» on the other side «I realized how important is that work-private life balance, for all, not only for a mother or a father».

The main outcomes: she had to quickly develop time management skills, and, even more interesting, her was a useful example for her research group: «I worked some nights and weekends and strived to be quicker, to compensate the time devoted to my family, but what I am happiest about is that I was able to have my own, personal space and time». And this is, at the end, Francesca's message: don't loose yourself in pursuing any academic objective, without pursuing a good balance in your private and work life.

A balanced life is not important for your mental health: it is a must for being a good researcher even more important than bibliometrics.



Why to be mom deserves a place in academic CV

Retrieved from [here](#), dated Oct 7, 2019

- I am trained in explaining very complex things in very simple words
- I can repeat things thousands of times
- My voice is trained to work hard
- I need to provide detailed ref.s for every small part of whatever I say
- I am continuously controlled w.r.t. self-consistency
- I am continuously controlled w.r.t. ethics
- I am continuously controlled w.r.t. conduct/behaviour
- I need to respect what I promised and have strong encouragements in respecting deadlines
- I give credits correctly
- I know how to appreciate great efforts for little good things
- I can temporarily give up for less important requirements, if the whole is not affected
- I have the opportunity to change perspective
- I should anticipate needs
- I developed team coordination skills
- I need to be multitasking
- I am supposed to develop some empathy
- I learn how to manage time and priorities in an effective way
- I have strong and shouting encouragements towards work-life balance
- I can repeat things thousands of times
- I will finish my work even if at home, while caring other needs, and I will be grateful for having the opportunity
- I am encouraged to work hard for the future World's quality

What Polimi does for PhDs?

For those, like me, who have seen it in the eighties, it amazing to see POP upsetting Politecnico's sobriety, stating that our diversity is a value⁽¹⁾, forcing to accept LGBT rainbows in our Campuses, opening a Unit to support mental health and touching so many awkward topics. The brave responsible of our POP side (it echoes "popular", it means "Pari Opportunità Politecniche") is our Executive vice-Rector, Donatella Sciuto and we asked her a comment.

«Politecnico takes care. Let's start from nurseries: it is a service for employees, extended to every student: they are not many, but every PhD student who needs may access the service, and it's for free. What more? Moral suasion: PhD students' life is in the hands of their advisors, we do our best advising advisors to be fair, unbiased in science as well as with genders. Moreover: now there is a Unit in the Central Administration, called Equal Opportunities, that is responsible for the organization of all the initiatives promoting equity, diversity, and inclusion; it also manages PoliPsi, the counseling, psychological and psychotherapeutic support, and the Multi Chance Poli Team, supporting students with physical and learning disabilities. In any case, for any problem, ask: the Unit will take care of !!».

⁽¹⁾ «Differences improve our capacity to think outside the box», a quote from the [Gender Budget 2019](#), 2020 edition, coming soon!





PHD AWARDS



AN AWARD FOR A HEART MODEL

The smiling guy on the left is Francesco Regazzoni, holder of a PhD in [Mathematical Models and Methods in Engineering](#), discussed last February, here at Polimi. A reason for smiling is for sure the recent award of the prestigious PhD Prize GBMA-AIMETA 2020 assigned to him, for his Thesis: [Mathematical Modeling and Machine Learning for the Numerical Simulation of Cardiac Electromechanics](#). His advisors Alfio Quarteroni and Luca Dede', proud of their disciple, gave us the news, just in time for this newsletter! Francesco has carried out his PhD research at [MOX](#) (Modeling and Scientific Computing) Laboratory, [Department of Mathematics](#), contributing to the ERC project [iHEART](#) - *An Integrated Heart Model for the simulation of the cardiac function* (PI prof. A. Quarteroni) with a novel mathematical model that explains how the human heart is capable of generating its pumping force and a short description of his innovative contribution is worth to be reported!

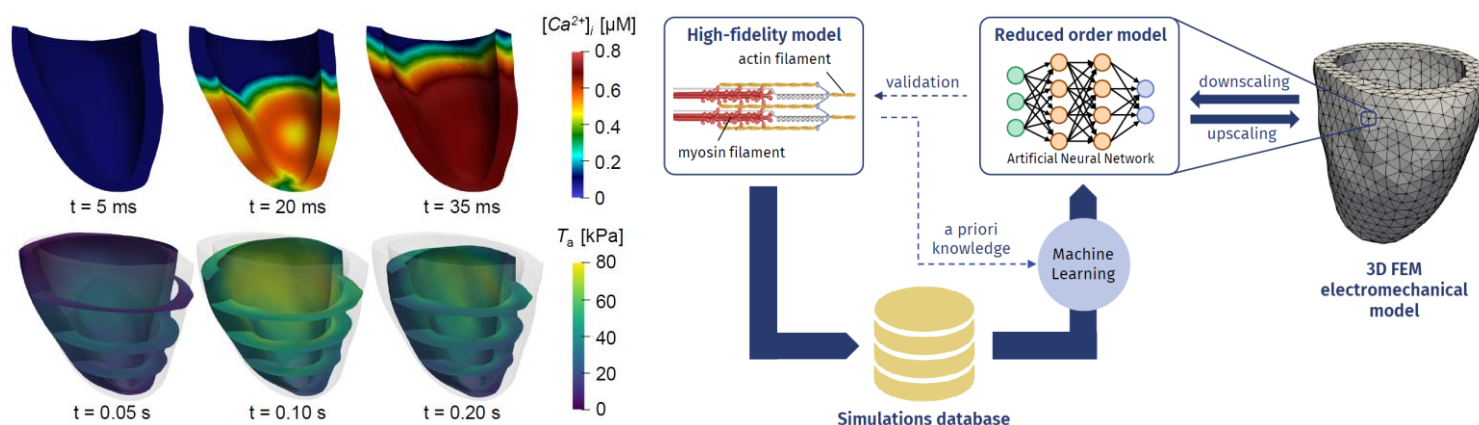
The core of his model is a detailed, microscale, description of the role of the basic elements of our heart, the contractile and regulatory proteins inside the cardiac muscle cells, the "cardiomyocytes". Francesco realized the cardiomyocyte model combining rigorous mathematical tools, to describe the stochastic processes of protein dynamics, with an original Machine Learning algorithm, that allows to speed up the numerical resolution of computational models by several orders of magnitudes: a power that – for sure – will contribute to expand our understanding of the heart and its diseases, supporting clinicians in the "design" of their treatment.

The Prize has been awarded by AIMETA (Italian Association of Theoretical and Applied Mechanics, Biomechanics Group – GBMA) for the best Doctoral Thesis on Theoretical and Applied Biomechanics. The motivation is the following:

"The Thesis presents the development of a multiscale electromechanical model of the cardiac activity. Continuous mechanics modeling techniques are integrated with multiscale and multiphysics approaches, capable of describe subcellular mechanisms at the basis of cardiac tissue electromechanics. The usage of Machine Learning methodologies is original and innovative in the research context. The Thesis is characterized by outstanding mathematical and methodological rigor. The computational aspects are well introduced and motivated, representing a significant contribution of validation and comparison. The dissertation is well structured, with a very effective organization and development of the themes.

The candidate demonstrates a full knowledge of the modeling and application aspects related to the topics covered. The impact of the research activity is potentially high, as testified by the candidate's publications in scientific journals of excellent level and by the existing collaborations."

Interested readers may go through his papers [at this link](#). Below, two pictures from Francesco's thesis.





CALLS AND EVENTS



MOXOFF ACADEMY

Moxoff Academy is a specialization course in applied mathematics and data science that our company offers to those who want to improve their knowledge and be able to apply it to real projects, solve concrete problems and create innovative solutions for business. It is directed to researchers who have completed their PhD or who are doing a PhD in STEM subjects; as well as to Data scientists/Data engineers who want to acquire a better knowledge of approaches, methodologies and tools.

Deadline to enrol in the Academy: 13 September 2020.



CA²RE | CA²RE + MILAN | COMPARISON - OPEN CALLS

CA²RE is a joint platform for research in all fields of architecture, design and arts, and supports early-career researchers and PhD students to improve the quality of their research within the realm of Design Driven Research.

Calls for PhD candidates and researchers are open to take part in the CA²RE | CA²RE + Milan online event ([brochure](#))

Deadline call for paper/artifacts: September 4th, 2020



EIT FIRST ANNUAL FORUM ON URBAN MOBILITY

The Doctoral Training Network (DTN) of EIT Urban Mobility organizes the (virtual) first Annual Forum on Urban Mobility, September 15-17, 2020: here the [Program](#).

EIT Urban Mobility is an initiative of the European Institute of Innovation and Technology (EIT). Since January 2019 it encourages positive changes in the way people move around cities in order to make them more liveable places. The DTN offers PhD candidates the unique opportunity to connect with their international counterparts at universities throughout Europe while strengthening technical expertise and fostering entrepreneurial and innovative skills. The first call to join the DTN expired last May, the next call is expected in Fall-Winter 2020.

Deadline for registrations: 11 September 2020



WIND TUNNEL RESEARCH GRANTS FOR POLIMI PhDs

The Politecnico di Milano Wind Tunnel is offering the opportunity to benefit of one among the Polimi world-class facilities to strengthen your PhD research.

The Wind Tunnel laboratory is one of the four PoliMi Large Research Infrastructures. It represents a natural meeting point for researchers coming from different backgrounds, countries and institutions to support the virtuous loop among numerical and experimental approaches. For further information on the Wind Tunnel please visit the webpage <http://www.windtunnel.polimi.it/>.

Among the several initiatives that Politecnico di Milano is putting forward to foster a wider use of the Wind Tunnel for Polimi internal research the Wind Tunnel issues a call for a free usage of the laboratory facilities. Specific interest of the call is to draw proposals for research activities that are not usually performed in the consolidated experience of the facility. The details of the call are as follows:

- All PhD candidates regularly enrolled at Politecnico di Milano at the expiring date of the call are entitled to apply. Deadline for application is 31 October 2020
- Candidates are requested to submit a short research proposal (max 2 pages) shared with their supervisors, highlighting the added value provided to their research project by the usage of the Wind Tunnel
- The proposals selected by the Evaluation Committee will have the opportunity of using the Wind Tunnel facilities a minimum of 3 days and a maximum of 5 days. The total number of Wind Tunnel days assigned through this call is not greater than 10.



- Applications must be delivered by filling in and submitting the form [at this link](#) by the deadline denoted above.
- The Evaluation Committee is composed by the following three members of the Wind Tunnel Scientific Board: Prof. Daniele Rocchi, Prof. Vincenzo Dossena, Prof. Sergio Ricci

Available resources are:

- Wind tunnel personnel for the plant operation
- Plant instrumentation: wind speed, air density and air temperature measures
- Available instrumentation (force balances, pressure scanners, anemometers, smoke machine, accelerometers, laser transducers, cameras,...). The availability has to be agreed with the wind tunnel personnel
- Wind tunnel models used in previous tests (buildings, bridges, trains, road vehicles, ...). Wind tunnel models for aeronautical applications include wing sections, helicopter rotors and full aircraft models (both fixed- and rotary-wing). The usage of these models is to be agreed with the coordinator of the pertinent project. To see the available models and evaluate their possible use in the proposal, ask for an appointment. Cost for model modifications, if agreed and feasible, are not included.

Deadline for application: 31 October 2020



SEMINARS AND WORKSHOPS



CA²RE | CA²RE + MILAN | COMPARISON

The 8th CA²RE conference together with the 3rd CA²RE+ event series is promoted by the Department of Architecture and Urban Studies (DAStU) and the PhD Program in Architectural, Urban and Interior Design of Politecnico di Milano.

October, 28th – 30th 2020 (online event)



STARTING COURSES – PHD SCHOOL

ENGLISH FOR ACADEMIC COMMUNICATION

Prof. Paolo Biscari, Prof. Cristina Mariotti

The course aims at making PhD students aware of the mechanics of writing in English to clearly communicate their ideas in academic settings; moreover, the course will provide an overview of English phonetics to maximize the effect of the students' oral presentations

From 7 to 11 September 2020



STARTING COURSES – DOCTORAL PROGRAMMES

PHD IN INFORMATION TECHNOLOGY

INTRODUCTION TO QUANTUM MECHANICS FOR ICT

Prof. Mario Martinelli

The themes and languages of quantum mechanics are nowadays of great relevance also in ICT engineering for applications visible in the field of quantum computing and quantum communication. The course is an introduction to the language and concepts of quantum mechanics dedicated to students with ICT training.

From 18 September to 30 October 2020





MODEL PREDICTIVE CONTROL

Prof. Marcello Farina

The course is aimed at providing the main ideas, algorithms, and properties of Model Predictive Control (MPC) and Moving Horizon Estimation (MHE). MPC, in particular, is the most widely used and successful advanced control method in the process industry and is nowadays also applied in distribution networks, coordination of autonomous systems, automotive, and in many other fields of application.

From 07 to 11 September 2020, via Teams



SELECTED TOPICS IN CRYPTOGRAPHY

Prof. Gerardo Pelosi

This course provides the attendees with an advanced knowledge of the threats to the security of computing systems, with a focus on the technologies which employ cryptographic means to provide security services.

From 01 September to 31 October 2020

