



Marzia, Ingenio al femminile

Marzia Bolpagni is a “dottoranda” of our PhD School: Master in *Architectural Engineering* at the *University of Brescia*, research fellow at *ITC-CNR* (Italy) and at *VTT* (that is the Finnish equivalent of the Italian CNR).

She is now at the end of her PhD in *Architecture, Built Environment and Construction Engineering* and, while her thesis is still under review and its discussion is planned between June and September 2018, she is already fully engaged in a post-doc activity in one of the biggest AEC consultancy group, UK-based, and takes part to national and international standardization committees (UNI CT 033 and CEN TC 442 on BIM).

Let's start with some acronyms. The **first** is AEC, that means *Architecture, Engineering and Construction* and, coupled with the term *sector*, it is used to refer to architectural designers, to all the service providers that make architectural designs feasible in technical, legal and social terms, to the industrial entities that realize the designed project (and later take care of its maintenance, retrofit or disposal at the end of its life) and to their suppliers.

The **second** is BIM, that stands for *Building Information Modelling*. It – mostly – means the software environment that, beyond old fashion CAD (Computer Aided Design), manages all the information about a built asset: about its parts, about the works (to be) done to realize it and to manage it in its life cycle, its economical values, its environmental costs, its maintenance needs etc. BIM has been the symbol of the digital change in AEC sector.

Marzia worked under the supervision of one of the Italian leading expert for digitalization in construction and BIM-evangelist, Angelo Ciribini, and her thesis topic is the (BIM-based) *Digitalisation of Tendering and Awarding Processes* in the AEC Sector.

Her work is founded on a three year experience on real case studies: at the Massachusetts Port Authority (US), at the UK Ministry of Justice, and with Italian and foreign designers, contractors and public authorities. Her “contribution to knowledge” (see: *EUA Salzburg Principles and Recommendations*, [here](#)) is linked to another acronym, LOD, that need a **third** explanation.

LOD means, alternatively, as *Level of Definition*, *Level of Development* or *Level of Detail* but, in any case, refers to “the quantity of structured information” that a digital document have or should have. It is a fundamental step toward a digital-based process in AEC Sector and Marzia's PhD work was spent to understand the legal and technical importance of LODs, i.e. how a standard definition of LODs is a fundamental requirement for clear, complete, interoperable and verifiable documents and for a controllable and reliable process.

Marzia Bolpagni just received an important award, the [Ingenio al Femminile prize](#), given by *Consiglio Nazionale degli Ingegneri* (CNI), that recognizes «her research endeavour and her early results as young, full member, of our society, beyond any gender gap».



We interviewed this cautiously-enthusiastic PhD Candidate asking her few questions.

Q: Your PhD Thesis is in its final draft: what is your feeling, now?

A: I feel I am ready for the real world. I had the privilege of spending the last three years studying it, meeting, discussing and reviewing my ideas with the best international experts about it, also with the help of [Progetto Professionalità Ivano Becchi](#) (I'd never believe I had this additional support that allowed me to spend 12 months between USA and UK) seeing how the most advanced contracting authorities, in north America and Great Britain are working). It has been a hard work, but I grew some new ideas, thanks to this time, and now I want to put them in practice. I see a great potential to make AEC Sector more efficient and reliable.

Q: What this [Ingenio al Femminile prize](#) means for you?

A: It is a honor! But also a great responsibility. It is a great satisfaction because it rewards three years of real sacrifices: it was hard to live abroad with the PhD scholarship, but even harder to convince the practitioners' and contractors communities that my research was worth their time: as woman in particular. The more you stay in touch with the highest and senior positions, in AEC Sector in particular, the less women you meet. I am the only woman, and the youngest person, with a leadership position, among the whole CEN/ISO Task Group. But it is also pushing me to prove that I deserve it. It is just a starting point!

Q: Who was Marzia Bolpagni, three years ago?

A: I remember a picture, shown during the welcome day: it was showing a circle with a little bump. The circle was the boundary of actual knowledge and the bump our expected contribution. That image was in my mind for the next three years. I did my best to reach that boundary. During the first year, I understood that that boundary couldn't be easily dented with standard thoughts. I did my best.

Q: What is your suggestions for the new PhD Candidates?

A: Believe in yourself. Also if you are the last dottorando, you can succeed. If you are headstrong enough, if you have (are able to find) the chance to show your value, you can. The real world need curious people, brave enough (and fair) to raise questions and to challenge your "eco-system". Another: be curious (not distracted) and open to as many disciplines as you can: your thoughts will be richer.

Q: Industry or academy?

A: My early stage researcher experience tempered my attitude: I learned how (and how much it is important) to perform systematic analysis, set the problem and the whys, before looking for a solution. Working life is only faster. I had the good fortune not to be pushed to rush and I was allowed to cook my thought at a slow flame. Now I want to run. But I am still spending at least one day per week off from daily emergencies, thinking, writing and elaborating new ideas; in brief, doing research. I don't feel me ready for academic work, now, but as soon as I will have the opportunity, I will be happy to go back to.



Marzia Bolpagni, during the award to the prize



Call and events

UNIVERSITÀ ITALO FRANCESE - VINCI 2018 CALL

Deadline: 6 February 2018 (12.00 noon)



GNB2018 CALL FOR PAPERS

The Sixth National Congress of Bioengineering (GNB 2018) will be held in Politecnico di Milano, on June 25-27, 2018. This event will feature keynote lectures with international standing speakers, oral presentations, poster presentations and round tables.

The goal of GNB is to bring together world-class researchers to present state-of-the-art research achievements and advances in biomedical engineering. Potential topics for the symposium submissions include, but are not limited to, state-of-the-art research achievements and advances in:

- Biomechanics and mechanobiology,
- Biomaterials and tissue engineering,
- E-Health and bioinformatics,
- Signal processing and medical image processing,
- Artificial organs, Medical and assistive robotics,
- Neural and rehabilitation engineering

Congress Paper Submission

Instructions for preparing the symposium paper are available on the [GNB website](#)

Deadline for abstract submission: 12 February 2018



FULBRIGHT CALL

Distinguished Lecturer Call

Deadline: 16 February 2018



KOREA RESEARCH FELLOWSHIP (KRF) PROGRAM

Korea Research Fellowship (KRF) invites outstanding postdoctoral researchers in order to achieve an excellent performance in their early stages of their professional careers. The program provides high-potential young & overseas researchers with a chance to carry out creative and emerging fields of projects, and supports them to grow as research leaders of tomorrow.

Deadline for application: 26 February 2018 (18:00, Korea time)



FREE ITALIAN LANGUAGE COURSES FOR PHD CANDIDATES 2017/18

Registrations **from the 26th of February till the 11th of March 2018**

The level test takes place on Friday the 16th of March

Lessons start on the 26th and the 27th of March

Where: Leonardo and Bovisa campuses.

Further info and path: www.polimi.it/onlineservices → Mobility → Language courses catalogue

PEOPLE@DEIB

Interdisciplinary competition within the People@DEIB initiative: development of robots for playing with disable children. Spare time.

From March 1st to 9th April 2018





Seminars and Workshops

MILANO DESIGN PHD FESTIVAL

Prof. Luca Guerrini, Prof. Alessandro Biamonti

You can see: www.phdfestival.com

From 21st to 23th February 2018



SCIENTIFIC SEMINARS - MILANO DESIGN PHD FESTIVAL 2018

Prof. Luca Guerrini

Navigating uncertainty, together is the theme of this year's scientific seminar, organized by the 2nd-year Ph.D. candidates, during the Milano Design PhD Festival 2018, coordinated by Prof. Luca Guerrini. The seminar investigates the new role of design research in an increasingly complex and interconnected world, riddled with societal and environmental challenges which often require collaboration between diverse actors and across a wide range of knowledge, skills and competences.

The world today is characterized by accelerated transformations, where the increasing availability of information has blurred analytical, linguistic and cultural references, rendering, in several aspects, our certainties uncertain.

Design researchers can provide an important contribution in this respect, offering a dialogic approach that extends the vision from a single or top-down perspective to multiple perspectives, allowing for shared visions to be created and for a shift in paradigm to occur from a solution-based approach to a participatory one.

21 February 2018



ARCHAEOASTRONOMY SUMMER SCHOOL "ISOLA DI USTICA"

The "Isola di Ustica" Archaeoastronomy School will take place from July 16th to 20th 2018 in Ustica. The teachers of the School (that will be held in Italian) are Franco Foresta Martin, Director of the Laboratory-Museum of Earth Sciences of Ustica and Giulio Magli, Director of the Department of Mathematics of Politecnico di Milano.

[Website](#)
[Program](#)

16th to 20th July 2018, Ustica (PA)



WORKSHOP "PAINTING DEGRADATION? LET'S HAVE A LOOK!"

The aim of the one-day meeting is to provide an overview of the latest innovation in photonic techniques for painting investigation

The session is free after on-line registration ([Online Form](#)). Note: places are limited!.

17 April 2018, Aula Natta – building 6 Leonardo Campus



CASE STUDIES IN 1D AND 2D NANOSTRUCTURE SYNTHESIS WITH KEY CONCEPTS OF KINETIC PROCESSES IN MATERIALS

The goal of this short course is to get the students to start thinking like materials scientists who focus on the inter-relationship between structure, processing, and materials properties.

The course will be offered by the University of Bergamo.

19th to 22th February, Bergamo





ITASEC18

Prof. Stefano Zanero

From 6th to 9th February 2018 **Italian Conference on Cyber Security** (ITASEC18) will take place in Politecnico di Milano.

The Second Italian Conference on Cyber Security is an annual event supported by the [CINI Cybersecurity National Laboratory](#) that aims at putting together Italian researchers and professionals from academia, industry, and government working in the field of cyber security. The conference will be structured into a main cyber security science and technology (S&T main track), a “fil rouge” track including a sequence of multidisciplinary sessions from economic sciences, political sciences, laws etc on a specific hot topic in cyber security, and a demo track devoted to prototypes developed by industries, research centers and universities. ITASEC18 invites submissions for tutorial proposals on all topics of potential interest to the conference attendees. The conference will also include special sessions on domestic cybersecurity startups and on cybersecurity hacking community. The conference will also feature few selected distinguished keynote speeches and panels. This year, the fil rouge track topic will be **"Cyber and Information Conflicts: strategic, tactical, policy and law aspects"**.

The full program is available in the attached file.

For more information please visit the link: [ITASEC18](#)

February 6th-9th 2018, Rogers Room (building 11, Via Ampère 2)



VEHICLE AERODYNAMICS IN AN ERA OF INTELLIGENT MOBILITY

Prof. Chris Baker, University of Birmingham

The world of transport is in a period of rapid change, with new concepts – such as Intelligent Mobility, Mobility as a Service, Personal Rapid Transit - being developed at an increasingly rapid rate. This lecture will primarily address the aerodynamic issues that are likely to arise as these concepts become reality.

February 27th 2:30 pm – Sala Consiglio, Department of Mechanical Engineering, Via La Masa 1



SLURRY FLOWS IN PIPELINE SYSTEMS: MODELLING AND MANAGEMENT

Prof. Gianandrea Vittorio Messa

The seminar describes research progresses achieved within the Dept. of Civil and Environmental Engineering in relation to liquid-solid flows in pipeline systems.

20 February 2018 at 11:00 (Beltrami Room – Building 5, ground floor)





Starting courses – PhD School

EPISTEMOLOGY OF SCIENTIFIC AND TECHNICAL RESEARCH

Prof. Simona Chiodo

This course is designed to acquaint students with the basic knowledge of collaborative research methodologies. The aim of the course is to learn and investigate variety of collaborative research methodologies in management and organizations.

From 16 February 2018 to 2 March 2018



ETHICS IN RESEARCH

Prof. Andrea Aliverti

The aim of the course is to make participants a) fully aware on how scientific and technological research have ethical implications; b) to identify ethical issues in specific research cases and procedures; c) to understand how the adherence to ethics standards is essential not only for respecting ethical values and fundamental rights, but also increase quality and likely impact of research.

From 5 February 2018 to 9 February 2018



ETHICS, TECHNOLOGY, AND SOCIETY

Prof. Viola Schiaffonati

In this course the ethical and social aspects of technoscience will be addressed in engineering, design, and architecture. This course aims at showing how the decision to develop a technology (meant at large), the processes of its design, development, management, control and production are inherently moral.

From 12 February 2018 to 16 February 2018



METHODS AND MODELS FOR THE DECISION MAKING

Prof. Alberto Colorni

The course presents methodologies, decision procedures and software tools for the support of choices and the decision making process. The focus will be on problems related with design of services, urban planning, territorial resources management, sustainable mobility.

From 1 February 2018 to 22 March 2018



PROJECT MANAGEMENT BASICS

Prof. Alfonso Fuggetta

Develop Project Management competencies and provide basic tools and techniques for Project Management activities

From 9 February 2018 to 23 February 2018



PUBLIC ENGAGEMENT AND COMMUNICATION FOR SCIENCE AND RESEARCH

Prof. Paolo Ciuccarelli

The mission of the course is to make students aware of the importance of bilateral communication along the whole research process. Students will experiment tools and methods to create from the beginning a successful dialogic (listen + talk) strategy for their research activity.

From 19 February 2018 to 16 March 2018





RESEARCH MANAGEMENT

Prof. Marcello Urgo

The aim of the course is to provide knowledge to draw up a financed research proposal and to develop the required skills to prepare a proposal, to manage the financed projects, to exploit the research outcomes. The main goal is the development of expertise for cooperative research

From 26 February 2018 to 30 June 2018



SOCIOLOGY OF RESEARCH

Prof. Paolo Volonte'

The mission of this course is to give the PhD students awareness of the social framework of doing research, so that they will be able to face in an effective way the main challenges of research for planning, design and technoscientific disciplines.

From 26 February 2018 to 30 April 2018



Colloquia Doctoralia

MECCPHD COLLOQUIA DOCTORALIA 2018

Prof. Daniele Rocchi – Programme Coordinator

Finale Defences of the XXX Cycle's PhD Candidates – Department of Mechanical Engineering

February 2nd, 16th, 19th, 20th, 22nd, 23rd, 27th

