Are PhDoctors resilient enough for their future?
by Enrico De Angelis (DABC-Polimi)

The future of human life has its main efficiency and sustainability drivers in the limitation of available resources and the growth of demand. But progress and change has its roots in technology and science: genetics and biotechnology, artificial intelligence and robotics, big information and smart data use, molecular design or mimicry nanotechnology, manufacturing innovation ... the list is long.

The speed of this progress is related to the usability of our infrastructures: for transport, communication, commerce ...; its efficacy and diffusion will be strongly linked to human and social factors. But industry will have a fundamental role in this change and media are waving the flag of an industrial revolution (someone says the fourth one) after already a couple of years.

What is certain is that the process has already started. And, as industries optimize their missions, structures and organizations day after day, to be able to seize production and consumption opportunities, employment is in a continuous transformation, whatever the welfare system of each Country.

The main question, here, in a PhD School, is how to empower our future PhDoctors for these changes. Also those PhDoctors who will be employed in Academic Institutions!

In January 2016, the World Economic Forum (WEF) published the Future of Jobs Report, presented during the Annual Meeting in Davos, dedicated to “Mastering the 4th Industrial Revolution”. The report is based on “expert opinions” and, although they aren’t the best basis for a reliable model of the future, it may help to understand how experts’ vision may influence future choices; in this case, how it may influence future employment choices.

This report is thick (140 pages of data fully documented and analyzed) but worth a reading. Some executive summaries too are available, in particular one about Jobs. It alerts that “Disruptive changes” are coming, that they «will have a profound impact on the employment landscape over the coming years» and that change will be deeper and quicker then ever. It also alerts – let me say – that “nothing is more uncertain than the future” and that the best action we can take, to be resilient to these non-fully predictable changes, is to be flexible, adaptable: to own skills that we may use in different activities.

Alex Gray, a freelance journalist publishing in the WEF blog, proposed a useful synthesis for the “skills of the future”, reported in the lists at the left.

PhDoctors should already hold many of them: “complex problem solving”, “critical thinking”, “judgment and decision making”, “cognitive flexibility”.

Others are not strictly part of a traditional PhD training (Creativity and Emotional Intelligence, for example).

Conclusion? Let’s not underestimate the importance of soft, transferable skills, for our best – succesful and resilient – PhDoctors.
Calls and events

Erasmus Mundus SUSTAIN-T call for mobility
Scholarships are granted by EU Commission through the Erasmus Mundus SUSTAIN-T (Technologies for Sustainable Development) Partnership, coordinated by Politecnico di Milano. The program supports visits to and from the Project Partners, Latin American Institutions, for collaborations on innovative technologies for sustainable development. All PhD candidates, post-doc researchers, and faculty members may apply for funds.

Deadline for applications: October 27th, 2016

Eni award – 2017
The Eni Award – 2017 has been announced!, in particular the call for the Young Research of the Year prize. The purpose of the prize is to help new generations of researchers to emerge, supporting their researches and innovations on the various scientific topics promoted by the Eni award. It will be awarded to two PhD research theses, defended in Italian Universities in 2015 or 2016 by candidates born on 1986 or later, addressing one of the following topics: water, air and land pollution prevention, rehabilitation and reuse of industrial sites; renewable energy and energy storage; relevant innovations in the use of hydrocarbons as a bridge to the decarbonisation of the energy system.

Deadlines: Nov 11th, 2016, 5PM CET, for account opening; Nov. 25th, 5PM CET for submission

Starting courses – PhD School

Italian language Courses
The PhD School organizes free Italian language courses for PhD candidates, to be held in 2016/2017, at Leonardo and Bovisa campuses. A previous level test is due, please register following this path: Online Services → Mobility → Language courses catalogue. Other info will follow.

Registration for the level test is possible from 6th to 26th October 2016

English language Courses
The PhD School organizes English language courses for PhD candidates, to be held in 2016/2017, at Leonardo as well as Bovisa campus. They are extracurricular (not to be entered into your study plan), “advanced level” courses, organized to enhance Candidate’s English proficiency. Few information more:

- **A level test** is due: Registration from Oct. 20th to Nov. 6th (different deadlines!) follow the path: Online Services → Mobility → Language courses catalogue
- **Course dates**: half December 2016/March 2017
- **Cost**: € 50,00 (including learning material)
- **Attendance certificate**: it will be given to those who attend at least 75% of the lessons

Seminars

MeccPhD Lecture 2015-16 – Recent trends in Manufacturing Engineering Research
Prof. Kornel Ehman, Northwestern University, will present the most recent trends in Manufacturing Engineering Research in USA and Asia, the activity and experience of of Northwestern University.

October 28th, 2016 - h. /10/2016 2:00 pm Sala Consiglio - Campus Bovisa
Colloquia Doctoralia
MeccPhD 2016 – Third Session
PhD Final Defense Session.
October 11th, 2016 - h. 10:30 - Sala Acquario

Starting courses – Doctoral Programmes
PhD in *Mathematical Models and Methods in Engineering*

SHORT COURSE ON SIMULATING DISCRETE EVENTS SYSTEMS WITH SIMEVENTS AT POLITECNICO DI MILANO
Prof. Konrad Abramowicz
Discrete Event Systems can describe time dynamics of various real life processes, like queues, call centres, production systems and airports. The objective of the course is to introduce intuitive, user friendly and very flexible SimEvents tool for simulating such systems. Starting from the simplest single server models, we introduce additional elements that may be used to model the complexity of real life phenomena. We will also show how MATLAB machinery may be used for optimising these models.
October 3rd, 5th, 7th, 2016

From the Web
From PhD to Life
This interesting [website](#) by Jennifer Polk, an Academic, Career, and Life Coach, assists PhD candidates in their career development through an extensive use of informational interviews. Check out in particular the *Transition Q & As* section!

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The detailed Programme of each course is available from the [Programmes' Courses page](#), or here: 📆. For more information, i.e. about starting date and classrooms, please check the “notes” field in the [Course Details](#) (follow the icon: 📆) or send an email message to the responsible for the Course 📧. Candidates from PoliMi PhD School must include the Course in their study plan. Others must contact the responsible for the course.

To submit information about seminar, events, and other news for publication in [forthcoming newsletters](#), please download and fill in the following [format](#), and E-mail it to: [phd-newsletter@polimi.it](mailto:phd-newsletter@polimi.it)