PhD: AN ACTIVE (HEALTHY) SYSTEM

by *Enrico De Angelis*

Australia appoints, every four year and since 1989, a Chief Scientist: an independent advisor, at the highest-level, with a lot of official roles and positions in all the national councils and institutions dealing with science, technology and innovation.

The actual Australian Chief Scientist is Alan Finkel: entrepreneur, engineer (electrical), neuroscientist and educator: you can take a look of his high profile career here.

Since it is also a representative role, you can find many interviews, talks, occasional papers etc., with and by Finkel, all over the network; they are all interesting and the most of them are about higher education.

A couple of weeks ago he wrote a short paper in the Nature's "World View", a special platform for scientists and funders, dedicated to opinions about science and politics. The paper is entitled "To move research from quantity to quality, go beyond good intentions" and talks about the the rigour and the reproducibility of published research and how to generate a leap toward a better research echosystem.

I have never believed in the golden age legend, nor, I am sure, Alan Finkel believes in it. Actual situation is not worse than some years ago (although «The road to bad research is paved with good intentions»). Before it was just easier to be a researcher and an academic, even easier to dream. Now it is different, it is more complex and the complexity more difficult to be faced, but I think, that twenty or forty years ago, the situation was just different, not better, and that we can manage this complexity.

In his paper, Alan Finkel offers his opinion and some tips. It is short and clear, so I won't spoil the pleasure to read it by yourself. You should: first, because it talks about PhD programs ("the apprenticeship to become a researcher"); second because its author states few general characters of an effective PhD program (and a the "scholar echosystem" in general). Let me just say that, in synthesis, the author wish an active (and healthy) scholar (and scholar training) echosystem.

Politecnico di Milano started a move toward an active scholar training system, many years ago, when the PhD School was created. The improvement process is continuous and never stopped.

If we want to generate a new leap, in this direction, as wished by the Australian Chief Scientist, a global effort is due by everyone: by PhD Candidates too.

This is a call!

AWARDS AND ACHIEVEMENTS

Andrea Giorgini has won the 11th edition of the "Michele Cuozzo" prize 2018 a competition open to Italian PhD student, graduated in the area of Mathematics, in 2018. The award ceremony took place the last December at Università di Roma Tor Vergata. Department of Mathematics, and, on that occasion, Andrea Giorgini gave a talk entitled "Recent results on diffuse interface models for binary fluid flows".

Andrea studied @polimi: BSc and MSc in *Mathematical Engineering* both cum laude, a PhD in *Mathematical Models and Methods in Engineering*, again cum laude in 2018 (advisor Prof. Maurizio Grasselli).
After a period as research assistant at the Department of Mathematics, Università di Pavia, he is now Zorn Postdoctoral Fellow at the *Indiana University* (USA).

CALLS AND EVENTS

CASSINI PROGRAM 2019

Organization of conferences and Italo-French study days

The call aims to create or develop scientific relationships with French universities and research centers. Cassini Junior (reserved for PhD students) and Cassini Senior (Reserved for researchers) provide 1000 euros for the organization of a scientific event in conjunction with the French and Italian cultural areas.

Deadline: 6 April 2019 (call in Italian only)

CEI BEST THESIS AWARD

All the Graduates who have discussed the thesis and obtained the Degree in the period between 01.01.2018 and 28.02.2019 can participate. Five theses will be awarded with a public and official recognition, and the award of a cash contribution of 2,000.00 euros for each award winner.
The prizes will be awarded to the five best theses dedicated to developing and deepening issues related to national, Community and international technical standards, also with reference to the preparatory and pre-normative research concerning certification activities and the pursuit of the rule of art.

Deadline: 15 March 2019 (call in Italian only)

JOURNAL OF ENVIRONMENTAL AND PUBLIC HEALTH - CFP

Call for papers
Special issue "Sustainable High-Quality Healthcare Facilities: Indoor Air Quality and Chemical Pollution in Healing Environments" – Journal of Environmental and Public Health. Special issue related to indoor air quality in healing environments. The special issue aims to create a multidisciplinary forum discussing approaches, solutions, and emerging strategies.

Submission deadline: 5 July 2019

ASSOCIAZIONE ANGELO MARCELLO ANILE - ANILE PRIZE 2018

The prize will be awarded for a PhD thesis (in English) submitted in an Italian university, concerning a topic that bridges the gap between *mathematics* and *its applications*. Work that uses advanced mathematics or proposes new mathematical tools in order to solve applied problems from economics, engineering, science and technology is particularly appropriate. The work will be evaluated on the basis of the quality of the mathematics and of its impact on the application.

Deadline: 31 March 2019

FRONTRUNNER GRANTS

FRONTRUNNER GRANTS

Would you like to join colleagues at other IDEA League universities, to explore an exciting research idea? Consider applying for an IDEA League *Frontrunner Grant*, a funding instrument open to professors, post-docs and PhD candidates that will support you in your first meeting, workshop or visit, to develop a common initiative and to strengthen or create a network. The grant will provide you a budget from 500 to 5,000 € for venue, catering and additional technical support.

For more information and how to apply visit:

SEMINARS AND WORKSHOPS

DIPARTIMENTO DI ELETTRONICA INFORMAZIONE E BIOINGEGNERIA

WEARABLE BRAIN-COMPUTER INTERFACE FOR AUGMENTED REALITY-BASED. INSPECTION IN INDUSTRY 4.0

In the last two decades, Augmented Reality (AR) has gained great interest in the technical-scientific community and much effort has been done to overcome its limitations in daily use. Main industrial operations where AR is applied are training, inspections, diagnostics, assembly-disassembly, and repair. These operations usually require the user hands to be free from the AR device controller. Despite hands-held devices, such as tablets, smart glasses can guarantee hands-free operations with their high wearability, provided that their input does not require hands. The combination of AR with a Brain-Computer Interface (BCI) can provide the solution: BCI is capable of interpreting human intentions by measuring user neuronal activity.

In this talk, most interesting results of this technological research effort, as well as its further most recent developments, are reviewed. In particular, after a short survey on research at University of Naples Federico II in cooperation with CERN, the presentation focuses mainly on state-of-the-art research on a wearable monitoring system. AR glasses are integrated with a trainingless non-invasive single-channel BCI, for inspection in the framework of Industry 4.0. Average accuracy is 80% at 2.0 s of latency. A case study at CERN, for robotic inspection in hazardous sites, is also reported

March 4th 2019, 2 pm – DEIB - Conference Room "E. Gatti" (building 20)

SOFA: AN OPEN-SOURCE SOLUTION FOR COLLABORATIONS, PROTOTYPING AND INNOVATION IN SIMULATION

Dr. Hugo Talbot, Fondation Inria - SOFA Consortium
This seminar will present SOFA (Software Open Framework Architecture), how to use it and the various fields of applications.

March 20th 2019, 4 pm – Sala Consiglio, Dept. of Mechanical Engin.,Via La Masa 1

1ST EUROPEAN SYMPOSIUM SALUTOGENIC HOSPITAL DESIGN & URBAN HEALTH

The Symposium is organised by the International Academy for Design & Health, a non profit multidisciplinary association founded in 1997. The event will investigate the global perspectives and local identities in healthcare architecture through an international platform for knowledge exchange between researchers and practitioners. Discover the full program and the special registration packages on the website. Discounts are available for PhD Students.

28-31 March 2019

WORK AND WELFARE IN THE DIGITAL ERA - ESPANET SPRING SCHOOL (PISA, 8-11 MAY 2019)

The Spring school aims at collecting knowledge and expertise on the impact of the so-called 4th Industrial Revolution (4IR) - the integration of cyber-physical systems and the internet of things, big data and cloud computing, robotics, artificial-intelligence based systems and additive manufacturing - on both social and labour market policies. The School is targeted to PHD students and post-doc researchers from all over Europe, who will interact and be mentored by leading experts in the field through front lectures, presentations and discussion, as well as plenary roundtables.

Venue: Scuola Superiore Sant'Anna in Pisa, Italy
Tuition fee: 300 Euros

Application deadline: 29th March 2019

INTERNATIONAL MULTIBODY SUMMER SCHOOL 2019

An international summer school on multibody dynamics will be held in Parma, Italy, in May 2019.

May 20-24, 2019 - Parma

STARTING COURSES – PHD SCHOOL

DISSEMINARE LA RICERCA
Prof. Anna Maria Paganoni

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 March 1st to June 30th 2019

PROJECT MANAGEMENT BASICS
Prof. Alfonso Fuggetta

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

From March 7th to March 28th 2019

SCIENTIFIC COMMUNICATION IN ENGLISH
Prof. Paolo Biscari

The aim of the course is to develop and improve the candidates' scientific writing, as well as increase their ability to deliver scientific and technical presentations in English.

From March 28 th to April 12 th 2019

SCIENTIFIC MODELS: CONCEPTUAL FOUNDATIONS AND PHILOSOPHICAL ISSUES
Prof. Giovanni Valente

The course aims at exploring the conceptual foundations of scientific models. Specifically, it deals with philosophical issues concerning the construction and use of models in various scientific disciplines as well as in engineering, architecture and design.

From 25th to 29th March 2019

STARTING COURSES – DOCTORAL PROGRAMMES

PHD IN *INFORMATION TECHNOLOGY*

ADVANCED TOPICS IN MUSIC INFORMATICS
Prof. Mark Brian Sandler

The course intends to introduce the emerging topic of music informatics from the point of view of applications. Music informatics is an emerging interdisciplinary research area that concerns production, distribution, consumption, and analysis of music through technology. Music Informatics covers a wide range of research topics, mostly related to Music information Retrieval (MIR). It also addresses cognitive, social, and economic issues in music; as well as improvisation and music performance.

From 7 March 2019

GENOMIC COMPUTING
Prof Marco Masseroli

This course provides an introduction to Genomic Computing, i.e. the application of computer engineering and mathematics to genomics, with an emphasis on concrete technologies and hands-on practice. It is intended for first-year PhD students, who will focus their research on bioinformatics, but it can be followed by PhD students and researchers of DEIB, MAT and other departments who wish to broaden their culture.

From 26 March 2019

INTELLIGENT MULTIAGENT SYSTEMS

Prof Francesco Amigoni

The course aims at presenting a family of distributed artificial intelligence systems, called multiagent systems, composed of autonomous entities - the agents - that interact together is purposeful ways. The course focuses on cooperative interaction between the agents.

From 18 March 2019

STREAM AND COMPLEX EVENT PROCESSING IN THE BIG DATA ERA

Prof Alessandro Margara

An increasing number of applications require processing continuously flowing data to obtain timely responses to complex queries. The course aims at presenting the state of the art of the field and the most recent research results in stream and complex event processing

From 4 March 2019

OTHER NEWS

POLIMI OPENS DOCTORAL TRAINING TO EXTERNAL CANDIDATES

Starting 2019, Politecnico di Milano has established to open its doctoral courses to all interested external candidates. To be enrolled, candidates must register at the POLIMI website (www.polimi.it/onli-neservices -> "Register") and then they will find in their online services webpage the function "Application for doctoral single courses".
By selecting it, candidates will be asked to choose the course(s) of interest (up to 10 credits per year) and to upload a CV and a motivation letter.

Their request will be evaluated promptly. In case of positive evaluation (which depends also on the course slots availability), candidates will proceed with the registration and may start attending the course. After successful completion of the course training, the candidates will be able to download from the same website a certificate attesting the earned credits.

The registration fee amounts to 500,00 € / 5 credits. Selected categories (including Visiting PhDs, PhD candidates of Institutions with which agreements have been signed, and employees of companies which have signed a "Joint Research Center" agreement with POLIMI) will receive a fee waiver, and will be requested to pay only the cost of the stamp and the insurance.

To inspect the PhD courses offer of the PhD School please visit this webpage

MECCPHD COLLOQUIA DOCTORALIA 2019

Final Defence of the XXX and XXXI Cycles PhD Candidates – Department of Mechanical Engineering

March 1st, 18th , 22nd 2019

PRESENTATION OF THE PH.D. THESIS

'Numerical modelling of Flow-Induced Noise in Control Devices', thesis defence, Luca Fenini

April 2nd 2019, h 10.30 Aula Castigliano, building 5