



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
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ISTITUTO DI STUDI AVANZATI

INSTITUTE OF ADVANCED STUDIES

ISA Lecture 2019

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JANUARY 2019

Santagata Rossella

*University of California Irvine,
USA*

Vannini Ira – EDU

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Załęska Maria

University of Warsaw, Poland

Capaci Bruno – FICLIT

*Department of Classical Philology and
Italian Studies*

Sbagliando s'impura: the power of errors for learning and teaching

Although errors in many cultures are seen as part of life and essential to human progress, the institutions that most societies have built as formal settings for learning—schools—are often places where errors made by students and teachers are to be avoided and are often punished.

In the first part of this lecture, I will discuss the role of errors in learning and cross-cultural, video-based research I have conducted on teachers' handling of student errors in Italian and U.S. mathematics lessons. This research highlights revealing cultural differences and calls for a better approach to student learning experiences in both countries.

In the second part of the lecture, I will argue that teachers should also be allowed to make teaching errors and to experiment with innovative teaching approaches. I will briefly summarize a longitudinal study that encouraged prospective teachers to take risks, conduct systematic analyses of teaching and learning supported by video, and learn from their mistakes. The productive reflection and noticing skills they developed through the process set the stage for their continuous learning and improvement once they entered the profession.

Rhetorical literacy in the quarrelling society

Treating rhetoric as an intellectual equipment for living, the lecture will address the persuasive phenomena within the counter-discourses, a dominant feature of the so-called quarrelling society. In the world deeply divided by conflicts, misunderstandings and fake news, the rhetorical literacy is needed more than ever to cope with the complexities of multilayered messages. Each citizen should develop the rhetorical awareness, meant both as passive competence of deciphering the messages of others and as an competent communicative performance, able to lead to consensus. After the preliminary distinctions between folk and learned meanings of the term 'rhetoric' and 'counter-discourses', the lecture will focus on rhetorical mechanisms of constructive and destructive conflicts. Several typologies of overt and covert mechanisms of conflict escalation and appeasement will be discussed and exemplified in contexts of private and professional communication, in order to offer the participants theoretical and practical means useful in both monitoring and actively shaping the conflictual interactions in which they are involved. The examples are expected to foster the discussion of the utility of the rhetorical research in context of other disciplines and to address the issue of the significance and meaning of academic expertise in context of non-academic activities.



Barbosa Silvia E.

*Universidad Nacional Del Sur, Conicet
e Plapiqui, Argentina*

De Angelis Maria Grazia – DICAM

*Department of Civil, Chemical, Environmental,
and Materials Engineering*

Development of active, smart and sustainable packaging

Conservation and shelf life enlargement of different products are current challenges that incentivize the innovation in the development of active and intelligent packaging.

This type of packaging had had a great development from the use of plastic films or modified paper board because of its versatility, good processability, recyclability and low cost. These features make the packaging sustainable.

Particularly, when the need arises to solve an specific actual problem that involves the development of a technology, the first step is the establishment of the frame of reference including, besides product requirements, actual market, packaging costs (products and both manufacturing and operative technologies), operational simplicity both in the manufacture of the film and in the construction of the container, different aspects of marketing (paintability, printability, sealing, etc.), productive sector involved (adaptability to automatic filling / pelletizing machines, associated costs, etc.), potential consumer acceptance, competitive advantages relative to current systems (savings, sustainability, practicality, etc.), between others. With this framework stablished, the initial restrictions the chances to achieve, from the academy, a development applicable are enhanced. However, it is not easy for academics to have all of this data, then joint developments with manufacturing companies of packaging is the key to obtain innovative and applicable developments in times compatible with the actual use thereof.

Using this approach, in our group we have developed different types of packaging based on plastic polyolefin films with customizing its properties. Different paths were chosen for problem solving: the inclusion of nanoparticles within a polymer (nanocomposites), nanoparticle surface modification, and/or a combination of both paths. To achieve the desired properties while maintaining sustainability, in each development a base study was carried out that involved the real relationship of the structure-properties-processing. The following developments will be presented: a) films for silo bag containing surface repellent and its technology of use, b) active, hermetic and intelligent system for the export of organic grains in containers that guarantees the traceability of the same by means of radiofrequency use, c) packaging systems for vegetables that allow them to be stored for five months without refrigeration, d) cardboard boxes repellent to fruit fly and anti-weevils, e) polyolefin hydrophilic, writable and erasable films (plastic paper), f) Anti-fungal films to extend the shelf life of cut fresh cheese and g) multifrequency wave screen films for packaging of electronic components.

The bases of each development will be discussed, analyzing the structure that gives rise to the set of desired properties, in conjunction with the processing operations that allow obtaining them in real manufacturing conditions.



**Perez Carrasco
Mariano**

*CONICET, University of Buenos
Aires, Argentina*

Veglia Marco – FICLIT

*Department of Classical Philology and
Italian Studies*

Barker Kristin

*University of New Mexico,
USA*

**Maturo Antonio Francesco
- SDE**

*Department Sociology and Business
Law*

Dante and the Foundations of Argentine National Identity: Literature, Politics, and the Dream of a New Nation

This seminar will explore the literary and political uses of Dante Alighieri in the building of the Argentine national identity, from the mid-19th- to the early 20th-century. The romantic myth of Dante as the father of the Italian nation and as the founder of modern times was unexpectedly adopted by Argentine intellectuals and politicians to build the cultural identity of the new nation. The political dimension of Dante's reception in Argentina is a hardly studied and still fascinating topic, both for Dante studies and for the better understanding of the rich history of Italian and Argentine relations. The seminar will focus on five major moments in the history of Dante's reception in Argentina: an introduction to the reception of the romantic interpretation of Dante in the first generation of Argentine intellectuals in the mid-19th century; the discussion on the civic value of poetry and the first Latinamerican translation of the Divine comedy published by the President of the Argentine Republic, Bartolomé Mitre; Leopoldo Marechal and Leopoldo Lugones's catholic and nationalist interpretation of Dante; and some references to Paul Groussac and Victoria Ocampo's publications, and Borges's essays on Dante, read in the broader context of his interpretation of Argentine national identity.

Who Knows: Medical Expertise in the Internet Age

It is increasingly the case that concerned and informed laypeople encroach on terrain seen as the jurisdiction of scientific experts. Because scientific and lay knowledge emerge within different social contexts and reflect different epistemological principles, they often diverge – sometimes leading laypeople to challenge scientific authority over issues that directly impact their well-being and that of their communities. Although sociologists of science and other science scholars have examined how expertise concerning scientific matters can be acquired by laypeople acting within local communities, they have not systematically examined how Internet communities create new opportunities for the development of such expertise. This is particularly commonplace in medicine, where online illness forums are popular sites for the production of lay knowledge concerning medical matters. In this lecture I put forward a theoretical framework for understanding the production and consequences of online patient-generated knowledge. Specifically, I explicate three interrelated forms of connectivity as core features of patient-generated expertise in the Internet Age.



Konestra Ana

*Institute of Archaeology,
Zagreb, Croatia*

Cirelli Enrico – DiSCI

Department of History and Cultures

Transformations of the Istrian landscape from Antiquity into the Middle Ages in light of recent archaeological research

The landscape of Roman Istria is characterised by a large number of rural sites of various typologies and with heterogeneous features, but all presenting numerous elements which allow the reconstruction of their main production activities - in primis olive cultivation and oil production, and on the coast fish farming, followed to a minor extent by other crops cultivation and wine production, as well as natural resources exploitation (stone quarrying, salt, husbandry, etc). These activities were, in certain cases, backed by production of transport containers and other pottery and ceramics. Moreover, several of these properties can be linked to senatorial families as well as to the Emperors. A first reorganisation of the Istrian rural structures is noticed between the end of the 2nd and the 3rd c. This tendency will continue in the next centuries as well, often obliterating production features to create either living spaces or establish new economic activities. These transformations are still to be fully understood, but several recently explored case studies can provide new insights into the dynamics behind them.



MARCH 2019

Kossek Ellen Ernst

*Purdue University,
USA*

Work-Life Leadership: Managing Self and Others for Well-being On and Off the Job

Dr. Kossek's lecture will center on actions leaders can take to take to proactively create a culture of work-life being for employees and leaders. She will discuss the trends making work-life relationships a critical workplace mental health issue, and how individuals and leaders need to proactively manage themselves, work-life technology boundaries, and their subordinates through work-life supportive actions in a 24-7 world.

Russo Marcello – DiSA

Department of Management

Leake Elizabeth

*Columbia University,
USA*

Fear and courage. The dictatorship and resistance in the literature of political confinement

This project examines a specific aspect of the Fascist regime's juridical practices—internal exile-- from a cultural perspective, through analyses of the varieties of self-expression used by prisoners. There has been an explosion since the early 1990s of works devoted to representations of confino experiences, including theoretical, historical, and regional studies. This boom comes after a relative dearth of works devoted to the subject, a dearth that extends essentially to the end of World War II. Unlike texts published during the 1930s-'40s (say, those of Lussu or Jacometti), which were published with the goal of educating an uninformed but politically like-minded readership, the new wave of confino books does not share the same goals as the first generation, or adhere to any stylistic or generic norms in the same way the first wave did. Specifically, the seminar considers structural, thematic and generic similarities in a survey of first- and second-generation confino texts collections of personal correspondence; memoirs and testimonies; and literary representations. The book argues that confino possesses a cultural history that speaks to the present. The scope of this study, therefore, is to provide a cultural reading that makes manifest aspects of confino that have been appropriated by contemporary political discourse.

Cammarano Fulvio –

DARvipem

Department of The Arts



MARCH 2019

Tsuchiya Junji

Waseda University,
Japan

Antonella Mascio – SPS

Department of Political and Social
Sciences

Fear and Technoculture: a future of Humanoid Society in Post-human Age

The relationship between machinery and humans has spun the history of fear. Since the middle Ages, especially the Early Modern era, the development of science and technology has been achieved on the basis of the idea of Cartesian dualism which opposes "man and machine", "material and spirit". This dualistic thought originates a human-centered viewpoint (anthropocentrism) that makes machines oppose humans, and any invasion of machines into the human world has been generated "fear" in a human society. Today, in the frontiers of advanced science and technology engineering including robotics, AI technology, neurosciences and biotechnology in recent years, the ontological and epistemological issue of human existence has been rapidly changing. Under the latest development of science and technology, it is necessary to reconsider now the Cartesian dualistic view on the definition of human category which has been the ideological base of modern scientific philosophy and to rethink of human condition and sociocultural belief on its characteristics based on the traditional dichotomy of <material (matter, body) / mental (mind)> substances and <man / machine> relations. The ongoing evolutionary advance and innovation which especially pushing forward "robotization" of human (cyborg) and "humanization" of robot (humanoid) results in the ambiguity of human category to be transgressed into the new ontological existence, id est post-human. The technological engineering has been trying to incorporate more and more qualities that have been deemed inherent to humans like sensitivity, intelligence and emotion to not-human artificial substances. In fact, in robotics and bioengineering, the human-inherent properties, innate abilities and capacities, whether sensitive, affective, emotional or spiritual, could be believed reproducible in humanoid other synthetic bio-organisms made by the parts of any kind of artifacts, AI and regenerative cells. The ontology with preferential distinction of human superiority to not-human characterized as the definitive paradigm of the philosophy of modern science has been strongly shaking since last few decades in the world of advanced science and technology. Our time is an era of fear which is generated by invasions to the category boundary of man/machine and nature/artificial. In this light, the lecture discusses sociological problems caused by the situations of advanced science and highest technology, so as to explore the characteristics of our age of fear.



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Carter Paul

RMIT University,
Melbourne, Australia

Albertazzi Silvia – LILEC

Department of Modern
Languages, Literatures, and
Cultures

The Future of Memory: the humanities in exile

In 2019 a five-year project called ‘The Future of Memory’ starts. The Humanities increasingly exist in exile from the mainland of scholarly and community support. ‘The Future of Memory’ argues that the Humanities need to apply their skills in new environments: interpretation, the art and science of meaning, must be materialized in concrete ‘forming situations.’ To give shape to this argument, ‘The Future of Memory’ is a research collaboration with the Parco archeologico di Paestum (Campania). The origin of this collaboration was a study of the tomb painting known as *il tuffatore* (The Diver), which focused on the problem of its interpretation: as a figure in transition, The Diver represents the poetic labour of what Paul Ricoeur calls ‘living metaphor’.

The first product of this collaboration, announced last October at Paestum, is *Rovine di un tempo che fu*, a program of public events commencing in September 2019 that explores the role of archaeological time consciousness in understanding anthropogenic climate change. The second, ‘Diving In: from refugee to refuge’ is the focus of my Bologna residency, and is proposed for 2020. It draws a connection between the ‘transitional zones’ provided for refugees in Greek colonial cities and a culture of care born of shared experiences of exile, shipwreck and precarity. It suggests that these urban elements acquire their significance from the application of a *hermeneia* of concomitant production, where reading the past is directly tied to a new creative *attegiamento* towards the design and navigation of the future.

The exilic condition also applies to traditional definitions of memory: one corollary of this is that new hermeneutical techniques and interests are migrant, ontologically located in the experience of poetic migration. A re-orientation of the humanities to peoples and places understood physically and psychically as in transition has profound institutional, pedagogical and societal implications. Practically and culturally, it implies a new, archipelagic organization of knowledge and knowledge communities.



APRIL 2019

Kumar Sanat K.

*Columbia University, New York,
USA*

Doghieri Ferruccio – DICAM

*Department of Civil, Chemical,
Environmental, and Materials Engineering*

Are Polymer Nanocomposites practical for applications?

Polymer nanocomposites (PNCs) typically contain one or more inorganic nanoparticle (NP) component within an organic, plastic matrix. These hybrid materials have been studied from the 1940's with a particular focus on applications such as rubber tires, gas separation membranes, water purification technologies, and space applications (such as shielding for the Jupiter spacecrafts). These demonstrations inspired the community to understand how to cost-effectively disperse nanoscale sheets, rods or spheres into polymers. We first ask why such hybrid constructs work and why they improve the resulting material properties. The relationship of these ideas to composite materials in nature (in humans: bone, teeth enamel; in other contexts: oyster shells), and what we can learn from billions of years of evolution is another topic that I will discuss.

Due to the scalability of the early applications (e.g., rubber tires), many felt that these concepts would be the foundation of a revolution in the plastics industry, where new resin lines would be based on judicious formulation of existing resins and nanofillers. However, over 75 years of innovative research have yet to produce this broad plastics revolution; rather PNCs have provided many valuable niche solutions. We therefore need to understand the outstanding challenges required for the cost-effect scale-up and manufacturing of these materials in the very large scale. This will then form the second thrust of my talk.



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APRIL 2019

Wade Robert

London School of Economics,
United Kingdom

Soci Anna – DSE

Department of Economics

Why the Trump era will last thirty years

This talk takes off from the question: Is the current upsurge of ‘populism’ & nativistic nationalism a short-term aberration, to be replaced within a few years by “normal” centrist politics; or are “we” in the early years of a global anti-liberal revolution which will endure for decades? The latter is more likely. The simple (simplistic) reason is extrapolation from the two political-economy orders since World War Two: three decades from 1945 to 1975 (*les trente glorieuses* in France) of Keynesian social democracy (in the West); followed by another three decades of neoliberal economics and culture, from around 1980 (Thatcher, Reagan) to 2008 and the Financial Crash. Ergo, next come three decades of Trump/Orban-type economics and politics, 2016-2046. More seriously, three decades of neoliberalism, now compounded by leaps in digital technologies, are causing sufficient (a) economic resentments and (b) geopolitical contradictions to sustain a long period of angry mass support (increasingly white-collar as well as blue-collar) for ‘populist’ leaders appealing to nativistic nationalism. This talk spells out some of the “bulldozer” forces (“climate” as distinct from “weather”) fracturing neoliberalism & globalization as we know them. These bulldozer forces include: (1) several different mechanisms which increasingly sluice income and wealth to the top in national income distributions (including “globotics”), generating economic resentments lower down; (2) global value chains which increasingly limit the upward mobility of developing countries to the living conditions of the developed countries, sustaining immigration pressure, legal and illegal; (3) social media which enables polarizing, paranoid beliefs to spread far and wide at high speed; and (4) challenges to US hegemony which make the US increasingly reluctant to push the neoliberal-globalization agenda, as in the past, and instead adopt a narrower, more nationalistic stance in the inter-state systems, prompting others to do the same.



McNeill John R.

*Georgetown University,
USA*

Alacevich Michele – SPS

*Department of Political and Social
Sciences*

The Anthropocene Debates

Since 2000, the idea of Anthropocene has infiltrated academic disciplines as well as the public imagination. Disagreements rage about its meaning, usefulness, and implications. The seminar will consider the origins of the concept and ongoing debates about it. In 2000 two prominent scientists popularized the term Anthropocene, meaning the interval of earth history since about 1780, characterized by rapid changes in the global environment, especially its biogeochemical cycles – and in particular the carbon cycle that plays such a powerful role in shaping earth's climate. The two proposed that the Anthropocene be understood as a successor to what natural scientists call the Holocene. The idea had precedents including the 'antropozoico' of the Italian priest and paleontologist Antonio Stoppani (1824-91). Geologists take the concept of the Anthropocene seriously. In 2008 the International Union of the Geological Sciences formed an Anthropocene Working Group, a collection of scholars whose remit is to recommend whether the Anthropocene should formally be designated a unit of geological time. The AWG is still at work. Detractors deny its scientific validity, calling it a political stunt. Supporters point to the scale, scope, and pace of global environmental change to claim that the earth is genuinely in a new moment in its long history. As a historian and not a geologist, I approach the Anthropocene in a non-technical way.

Ellemers Naomi

*University of Utrecht,
The Netherlands*

Rubini Monica – PSI

Department of Psychology

Diversity and Organizational Development

The potential benefits of employee and management diversity for organizational development have been clearly documented. Differences in ethnicity or gender can enhance innovation and decision making in task teams, and can improve stakeholder commitment and organizational performance. At the same time, it is not always easy to realize these diversity benefits. Building a more inclusive team and organizational climate proves to be quite challenging. But failing to do so causes those who are different to get discouraged and opt out, or prevents them from adding value as they adapt to existing ways. In this talk I will review evidence from experimental and applied research carried out in my lab to address these issues. The results we obtained elucidate some of the unexpected difficulties that are encountered when people with different backgrounds start working together. This work also helps to identify concrete measures that can be taken to build more inclusive work teams and organizations.



MAY 2019

**Martinez-Cue Pesini
Carmen**

University of Cantabria, Spain

Guidi Sandra – DIBINEM

*Department of Biomedical and
Neuromotor Sciences*

Alzheimer's disease and Down syndrome: implications of the shared neuropathology to the development of new therapeutic approaches

Alzheimer's disease (AD), a condition that affects 45 million people in the world, is characterized by different neuropathological hallmarks and dementia. Today, the only approved pharmacological treatments for this condition have very limited efficacy and their effect are only symptomatic. In the last years, different strategies targeting the tau protein or aiming to reduce β -amyloid production, to prevent β -amyloid aggregation, or to enhance β -amyloid elimination (through active or passive immunotherapies) have been tested. Although many of them have been proven to be effective in preclinical settings, over 99 % of them have not demonstrated any efficacy or have been shown to have important adverse effects in Clinical trials. One of the reasons for this failure has been suggested to be fact that most animal models of AD, in which preclinical studies are performed, are based on genetic alterations found in different types of Familiar AD, that only accounts for 5 % of the cases of AD, which are not found in Sporadic AD (95 % of the cases). Because 100 % of individuals with Down syndrome (DS) develop AD neuropathology by their fourth decade of life, it has been proposed that Down syndrome could be a more adequate setting to study the neurobiological basis of AD and to test new therapeutic targets. This seminar will review the preclinical evidence that have led to Clinical trials that are taking place in DS and AD, with special emphasis on the new therapeutic strategies.



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MAY 2019

Swoap Steven John

Williams College, USA

Silvani Alessandro – DIBINEM

*Department of Biomedical and Neuromotor
Sciences*

You have to be cool to go to Mars

Many challenges face us as we consider sending astronauts to Mars. How do we carry enough food and water for the 4-year trip? How do we protect from radiation? How do we deal with the social isolation and psychological impacts of limited human contact in a small space? There may be a single answer to solve several problems of long-term space flight --- deep torpor. Science fiction writers have had this figured out for decades. But how do we put into practice a real hypometabolic state in humans? Mother Nature has solved this several times over in animals that hibernate for an oncoming winter, in animals that utilized torpor during the fire season, in animals that estivate, and in animals that enter a dauer (enduring) state during development. How about humans – can humans hibernate? Lots of anecdotal evidence suggests that human babies, toddlers, and in a few cases, adults, can enter a torpor-like state, withstanding hours and even days of severe hypothermia. This seminar will examine current strategies utilized throughout the animal kingdom, and their application to human hypometabolism for long-term space flight.



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Dondero Maria Giulia

F.R.S. – Fonds National de la Recherche Scientifique (F.R.S -FNRS), Belgium

Paolucci Claudio – FILCOM

Department of Philosophy and Communication Studies

Koutsoyiannis Demetris

National Technical University of Athens, Greece

Montanari Alberto – DICAM

Department of Civil, Chemical, Environmental, and Materials Engineering

Image Analysis between Semiotics and Computational Methods

This lecture aims at describing the relationships between semiotic analysis of images ('close reading') and computational analysis of big corpora of images ('distant reading'). We'll pursue two objectives. The first is to describe the different types of analysis created through Media Visualization as practiced by Lev Manovich and the Cultural Analytics Lab.

We will study two ways in which vast collections of archived images (Big Visual Data) are visualized – as montages and diagrams, posing the hypothesis that these visualizations function as an analysis of the visual archive through specifically visual and topological means.

The visualizations created with this automatic and statistic techniques can be seen as diagrams that classify image corpora according to visual descriptors (color, shape, topological arrangement). The issue of visual metalanguage will be broached. We'll show that the concept of analysis is not exclusively limited to natural and formal languages for its implementation, but that visual language may also serve as an analysis medium. The second objective is to define a series of new indexation parameters for image databases (especially compositional and mereological parameters). This strategy will enable us to go beyond the usual metadata on which these databases are constructed and to evaluate whether and how the question of archiving images can be useful for rethinking plastic/figurative analysis and enunciate theory in Semiotics.

Climate is changing ... since 4.5 billion years ago

The scaremongering on "climate change" and the disasters it will allegedly cause is mainly associated with socio-political and economic interests, rather than with scientific data. The very notion of "climate change" is not adequately defined as a scientific term. In fact the term is a pleonasm, as change is inherent in climate. The study of paleoclimatic data and historical hydrometeorological time series shows that climate has always been changing, on all time scales and as far back in time climate reconstruction studies allow. The hypothesis that recent changes (e.g. the increase of average global temperature by about 0.3°C in the last three decades) is anthropogenic, unlike the natural changes which always have taken place, is not supported by evidence. The climate models that have been used in support of this hypothesis, when tested in independent studies, have shown no skill in reproducing correctly the known past climate. A fortiori, the predictions of these models for the future can not be trusted.



Madsen Jacob B.

*University of Western
Australia*

Minniti Antonio – DSE

Department of Economics

Inequality, Innovations, and Globalization

Income inequality has increased substantially since the early 1980s in most countries in the world. Going back two centuries for the advanced countries it is shown that inequality has changed substantially over time. In this presentation, I discuss factors that have driven inequality over time such as 1) technological epochs; 2) globalization waves; 3) taxes; 4) declining investment prices; 5) unionization; 6) wars and 7) democratization. Furthermore, I show that inequality is increasing in economic progress in pre-industrial periods.

Nielsen Karina

*Sheffield University,
United Kingdom*

Guglielmi Dina – EDU

*Department of Education Studies
«Giovanni Maria Bertin»*

Designing, implementing and evaluating organizational interventions to improve employee well-being

Although interventions that aim to improve employee well-being through changing the way work is organized, designed and managed (organizational interventions) are generally recommended (ILO, 2001, EU-OSHA, 2010), reviews reveal inconsistent effects; while some show positive effects, others show no effects, mixed or even negative effects on employees' working conditions and well-being (Semmer, 2011). These inconsistent effects have led researchers to take an interest in examining how the interventions may be designed and implemented to ensure an intervention's success. Process evaluation frameworks and reviews have highlighted a number of process factors that may either make or break an intervention (Nielsen & Randall, 2013, Nielsen & Abildgaard, 2013). It has also led to scholars calling for innovative ways of evaluating such interventions with a view to understand what works for whom in which circumstances thus moving beyond the randomized- controlled trial's question of whether an intervention worked or not. I put forward suggestions for how researchers can design, implement and evaluate organizational interventions to promote employee well-being. I will present state-of-the-art research in the area and present practical tools that may support change agents in translating research into practice throughout all phases of intervention: From designing, identifying problematic areas of the working environment, developing and implementing action plans to evaluating action plans.



Reinhardt Nicole

*University of Durham,
United Kingdom*

Lavenia Vincenzo –

DiSCI

*Department of History and
Cultures*

Lazy young men? The Bolognese Accademia degli Oziosi as an emotional and scientific community

Scholarship on Italian academies has focused on their artistic and philosophical “outputs”, and more recently on the social networks that underpinned them. The reason for this is that publications by their members have survived abundantly. While this allows for perspectives on how the academicians fashioned themselves within the republic of letters, it does not supply an understanding of how they related to each other and their common project. I want to approach such questions based on manuscripts now preserved in Austin/Texas and produced by the Bolognese Accademia degli Oziosi, founded in 1563 by Camillo (1542–66) and Pompeo (1542–1607) Vizzani. The documents are significant not only because the Vizzani family archive has not survived, but also because they provide rich insight into the communication between the academy members. The Oziosis ceased to exist at Camillo’s death, but are considered a transition point from the Accademia Bocchiana to the later, and more famous Accademia dei Gelati. My lecture will explore how the apprenticeship and performance of emotions and natural philosophy co-determined the Oziosi as a generational cohort. Secondly, I propose that the conservation of their manuscripts may be understood not only in terms of the preservation of Aristotelian philosophy, but also of the transmission of “emotional knowledge” across the generations. This approach hopes to enrich the historical understanding of scientific and social knowledge more widely.

Zanetti Francesco

*University of Oxford,
United Kingdom*

Giannoccolo Pierpaolo -

DSE

Department of Economics

Effetto delle riforme del mercato di lavoro: evidenza, teoria ed implicazioni di politica economica

La lezione presenterà , partendo dalla evidenza empirica ricavata da recentissime analisi, il seguente tema di ricerca: "come l'effetto delle riforme del mercato del lavoro sulla crescita economica dipenda dal ciclo economico". Guardando alle riforme europee, l'evidenza mostra che riforme dei contratti lavorativi e degli incentivi alle assunzioni possano avere un maggiore effetto in periodo di recessione perchè il numero di lavoratori disoccupati è maggiore rispetto a periodi di crescita economica. Durante la lezione verrà mostrato lo sviluppo di un modello di equilibrio economico generale basato sui lavori dei premi Nobel Diamond, Mortensen and Pissarides che mostra come sia importante che le riforme si focalizzino sulla creazione di nuovi lavori invece che sulla diminuzione nelle chiusure dei lavori esistenti. Il modello analizzerà i meccanismi teorici per una corretta implementazione di riforme del mercato del lavoro e mostrerà le migliori politiche economiche che possano generare crescita economica con il minor numero di perdite di posti lavoro. Attraverso la lezione, l'uditorio esperto e non esperto potrà analizzare argomenti e temi di riflessione che non sono solo arginati alla ricerca ma che coinvolgono la vita di tutti i cittadini.



Kimura Tsunehisa

*Kyoto University,
Japan*

Venuti Elisabetta - CHIMIND

*Department of Industrial
Chemistry industriale "Toso
Montanari"*

Meguid Shaker

*University of Toronto,
Canada*

Croccolo Dario - DIN

*Department of Industrial
Engineering*

Magnetic processing and analyses of non-magnetic materials

We know that an iron screw is attracted by a magnet. But, we never had an experience that a plastic bottle is attracted by a magnet. That is because the iron is ferromagnetic but plastics are non-magnetic. However, physics tells us that any materials, such as plastics, water, proteins, and even human bodies can be influenced by magnetic fields though the effect is very small. This magnetic nature is known as diamagnetism. In my talk, I am going to show you how the magnetic field is useful for processing of materials, and for analyses of crystal structures of inorganic, organic and biological materials. Background of physical chemistry to understand magnetic effects on non-magnetic materials is summarized.

Multiscale modeling of the electromechanical behavior of multifunctional nanocomposites

In this lecture, I shall present multiscale modeling techniques that have successfully been developed in my laboratory to study multifunctional polymeric nanocomposite. Mechanical, interfacial, electrical, and piezoresistive properties of carbon nanotube (CNT) reinforced polymer composites were investigated using molecular dynamics (MD), micromechanics, and coupled electromechanical modeling techniques. Additionally, scanning electron microscopy and atomic force microscopy were used to determine the morphology and dispersion state of a typical CNT-epoxy composite. Based on these measurements, realistic nanocomposite structures were modeled using representative volume elements (RVEs) reinforced by CNTs with different aspect ratios, curvatures, orientations, alignment angles, and bundle size. The obtained atomistic mechanical properties of the composite constituents were then scaled up using Mori-Tanaka micromechanical scheme. Additionally, Monte Carlo simulations were conducted to determine the percolation and electrical conductivity of RVEs containing randomly dispersed CNTs. An advanced search algorithm was developed to identify percolating CNT networks and transform them into an equivalent electrical circuit formed from intrinsic and tunneling resistances. Finally, the electrical model was coupled with a three-dimensional finite element model of the RVE to determine the coupled electromechanical behavior of the composite under tensile, compressive, and shear loads.



AUGUST 2019

Vendries Christophe

*Université de Rennes II,
France*

Restani Donatella –

DBC

Department of Cultural Heritage

Roman Music and epic film in Hollywood (1951-1963) The challenge of the film composer: rebuild or reinvent the atmosphere of Antiquity ?

How was conceived the music from Antiquity in the 1950s Hollywood Toga movies scores ? Two aspects are studied : the accessories (the musical instruments of antiquity which are shown on screen) and the compositions of the soundtracks. In 1951, the composer Miklos Rozsa took a new step of creation for “Quo vadis?” (MGM, M. Le Roy, 1951), a résumé of the first century Roman world, by studying the archaeological context. The aim was to lend authenticity to Roman music by using replicas of musical instruments of the period (aulos, harp, lyre, trumpets) and by incorporating ancient Greek melodies (Delphic hymns, Seikilos song) as a basis for his music. The music of Quo vadis which proposes a compromise (between Roman music, Christian songs, exotic music from Orient, triumphal marches) established Rosza as one of the main composers of epic scores. However, the insertion of original plays of Greco-Roman music was not enough to change the romantic mood that was the main musical style in Hollywood. Nevertheless, this extensive experience contributed to the rise of an “archaic musical style” in scores that can give the illusion of Romanism through the use of monody, intervals of fourth, dissonant musical effects. This approach will be compared with the musical choices adopted by other composers of the golden age of Hollywood (as Alex North for Cleopatra and Spartacus) and with the music of neo-epics (Gladiator).

Martucci Francesco

*Université Panthéon-Assas
Paris II, France*

Casolari Federico - DSG

Department of Legal Studies

The integrated budgetary framework: A comparison between France and Italy

Early 2018, France exited from the excessive deficit procedure. Late 2018, the European Commission is considering to initiate this procedure against Italy. However, Italy’s deficit is lower than France’s one that is below the 3% threshold. This issue is of fundamental importance since it highlights the modalities through which the Member States adopt their budget within the Eurozone. Indeed, they are bound by a set of rules and procedures that form the integrated budgetary framework. This framework is aimed at subjecting the Member States to a budgetary discipline the failure to comply with which leads the States to face more severe sanctions imposed by the market (spread) than by the law (Stability and Growth Pact).



Torres Claudio

*Drexel University College
of Medicine, USA*

Lorenzini Antonello – DIBINEM

*Department of Biomedical and
Neuromotor Sciences*

Astrocyte senescence and neurodegenerative disease

Astrocytes participate in numerous aspects of central nervous system (CNS) physiology ranging from ion balance to metabolism and disruption of their physiological roles can therefore be a contributor to CNS dysfunction and pathology. Cellular senescence, one of the mechanisms of aging, has been proposed as a central component of the age-dependency of neurodegenerative disorders. Cumulative evidence support an integral role of astrocytes in the initiation and progression of neurodegenerative disease and cognitive decline with aging. The loss of astrocyte function or the gain of neuroinflammatory function as a result of cellular senescence could have profound implications for the aging brain and neurodegenerative disorders. Evidence pertaining to astrocyte senescence, the relationship to age-related neurodegenerative disease and the significance of targeting senescent astrocytes towards therapies for age-associated neurodegenerative disease will be discussed.

Onali Enrico

*Nottingham University,
United Kingdom*

Toruluccio Giuseppe – DiSA

Department of Management

The role of remuneration and corporate governance in the banking industry

Policy makers acknowledge that banks are an important conduit of monetary policy that can be used to influence real economic activity and financial stability. This study aims to examine the nexus between monetary policy, bank profitability, performance and stability of the financial system. Nowadays, the connections between these three relevant dimensions of the regulator and banking industry are crucial: the profession is still attempting to understand how conventional/ unconventional monetary policies affect economic activity and what are the channels through which monetary policy impinges on financial stability. Two strands of literature emphasize the relationship between bank performance and monetary policy. The first one focuses on the relationship between monetary policy shocks and bank profitability through the income and balance sheet channel . The second strand examines the relationship between bank stock prices and monetary policy. The financial market drives relevant impact on the stability of the whole economic system. The financial literature supports the existence of an interest income channel, whereby an increase in the interest rate target has a positive impact on banks profitability.



SEPTEMBER/OCTOBER 2019

Checkoway Harvey

*University of California at
San Diego, USA*

Boffetta Paolo – DIMEC

*Department of Medical and
Surgical Sciences*

The Contribution of Occupational Epidemiology to Prevention of Environmentally-Related Cancers and Neurological Disorders

Occupational epidemiology research has been highly influential in characterizing etiologic relations between environmental exposures and risks for cancers and neurological disorders experienced by workers and the general population. Workers throughout the world often represent the “high dose groups” of the general population. As such, the findings often have important implications for environmental policies that can lead to disease prevention. This lecture will describe the advantages and limitations of the various study designs and approaches to exposure assessment that are applied in occupational epidemiology. Illustrative examples will be epidemiologic studies of: silica and lung cancer; endotoxin and various cancers; welding fume metals and parkinsonism; and, ultraviolet radiation and multiple sclerosis.

Askari Chaverdi

Alireza

Shiraz University, Iran

Archaeological Perspective of the Ancient Societies of Fars and the Persian Gulf between the 3rd Century BC and the 3rd Century AD (the Interregnum)

In order to gain an insight into the economic and social trends that characterized Fars and the Persian Gulf in the period spanning the fall of the Achaemenid and rise of the Sasanian empire, we will explore the ways in which the regional sustainable resources were managed and exploited, also thanks to an interdisciplinary comprehensive investigation of written sources, of epigraphical records - particularly clay sealings with impressions of administrative seals - and of the results of palaeoenvironmental investigations carried out by Dr M. Djamali on the basis of palynological records. Thus, the lecture will deal with 1) ascertaining such potentials as the trade network linking the Persian Gulf region to northern Fars Province; 2) to what extent and in which ways the trade system was used and how it functioned and extended from the Persian Gulf to the inner parts of Fars Province; 3) water and soil resources and the nature of their exploitation in the expansion of agriculture systems in the littoral hinterlands as determinant factors in the partial political autonomy of these regions from the 3rd century BC through the early 3rd century AD and the subsequent institution of the legitimate, trans-regional power — the Sasanian Empire.

Callieri Pierfrancesco –

DBC

Department of Cultural Heritage



OCTOBER 2019

Howick Jeremy

*University of Oxford,
United Kingdom*

Campaner Raffaella –

FILCOM

*Department of Philosophy and
Communication Studies*

Using empirical philosophy to rethink mechanisms in medicine

In current philosophical work mechanisms are taken as responsible for key roles in establishing causal claims (Glennan 2017), generalizing causal claims (Cartwright 2010), and generating useful hypotheses about causal claims (Parkkinen 2018). In apparent opposition, the EBM community does not promote any formal evidential role for mechanisms (Howick 2011). Arguing for a middle ground, Howick will use empirical philosophy will be used to argue that both the pro-mechanism and the pro-EBM arguments are too strong. He will appeal to empirical counter-examples and theoretical considerations to undermine their strong claims, and will critique the EBM view that knowledge of mechanisms is not required at all to establish causation. This empirical research includes a systematic review of 'research on research', which has compared the success of mechanistic and empirical strategies for generating medical interventions. Suggestions will be provided for how evidence of mechanisms can help introducing a more formal role for evidence of mechanisms within medicine. Such suggestions centre on the need for pro-mechanism philosophers to engage with empirical philosophy in order to make their program more relevant.

Rogers Richard

*University of Amsterdam,
The Netherlands*

Cosenza Giovanna –

FILCOM

*Department of Philosophy and
Communication Studies*

Digital Methods

The seminar opens with a discussion of how to repurpose digital "methods of the medium" for social and cultural scholarly research, including its limitations, critiques and ethics. Subsequently the discussion turns to the practicalities of using digital methods hands-on. How to use crawlers for dynamic URL sampling and issue network mapping? How to employ scrapers to create a bias or partisanship diagnostic instrument? We also consider how to deploy online platforms for social research. How to transform Wikipedia from an online encyclopaedia to a device for cross-cultural memory studies? How to make use of social media so as to profile the preferences and tastes of politicians' friends, and also locate most engaged with content? How to make use of Twitter analytics to debanalize tweets, and provide compelling accounts of events on the ground? Finally, the workshop turns to the question of employing web data and metrics as societal indices more generally.



OCTOBER 2019

Ardila Federico

*San Francisco State
University, USA*

Moci Luca– MAT

Department of Mathematics

Using Geometry to move robots quickly

How do we move a robot quickly from one position to another? To answer this question, we need to understand its "space of possibilities", a "map" where we can find every possible position of the robot. Unfortunately, these spaces are very large, they live in very high-dimensions, and they are very difficult to visualize. Fortunately, algebraists have encountered and studied these kinds of spaces before. Thanks to the tools they have developed, we can build "remote controls" to navigate these complicated spaces; this allows us to move (some) robots optimally. It also makes us face ethical questions that we cannot ignore. This talk is based on joint work with my students Arlys Asprilla, Tia Baker, Hanner Bastidas, Cesar Ceballos, John Guo, and Rika Yatchak. It will be accessible to a general audience, and assume no previous knowledge of the subject.

Bernardo Rex

*University of Minnesota,
USA*

Frascaroli Elisabetta– DISTAL

*Department of Agricultural and
Food Sciences*

Power Tools for New Plants to Feed 10 Billion People by 2050

Plant breeding is the genetic improvement of plants for human benefit. The world population is projected to increase from about 7.2 billion people today to nearly 10 billion people in 2050. The plants that provide our food need to be continually improved to keep up with the growing world population, and this improvement can be accomplished through different means. Advances in agriculture, genomics, and Big Data have given breeders "power tools" for exploiting naturally occurring genetic variation to increase the yield and adaptability of crops under a changing climate. In this lecture, Professor Bernardo will describe how such power tools can be used to improve crops important in the USA, in Italy, and around the world.



Sened Itai

Tel Aviv University, Israel

Giannetti Daniela – SPS

Department of Political and Social Sciences

New Wealth... Old Poverty: The Changing Dynamics of National and Global Inequality

The world in which we live has gotten to recognize the increasing measures of inequality that came with the transition from the institutional structure of the welfare state to the institutional structure of the neo liberal era that currently dominates the western developed hemisphere. The 62 wealthiest people in the world own the same amount as the least well off 3.5 billion, or 50% of the world's population. The wealth of these 62 people increased by 44% between 2010 and 2015 while that of the bottom 3.5 billion fell by 41% over the same period. This is happening right now and we are not doing anything to stop or change it, mostly because we are not paying any attention to it. In this lecture, I provide an over view of the phenomenon and some intriguing thoughts about the sources of local, national and global inequality. Central to the argument is the simple fact that the new wealth is mostly intangible while poverty, old and new is very tangible. While the rich accumulate unthinkable stocks of wealth based, mostly, on new and high tech knowledge, the poor lag further and further behind with lesser and lesser access to the sources of the new wealth that emanates from the most exquisite forms of high quality higher education.

Lazarian Alexandre

*University of Wisconsin –
Madison, USA*

Dallacasa Daniele

– DIFA

*Department of Physics and
Astronomy*

The Turbulent Turbulent World

Astrophysical fluids have high Reynolds numbers and this makes them turbulent. Turbulent fluids have properties that are radically different from their laminar counterparts. I will discuss first how turbulence affects the process of magnetic reconnection and show that it induces gross violation of the textbook concept of the flux freezing. Implications of solar magnetic activity on Earth activities and telecommunications will be discussed, as well as its influence on the "space weather".



NOVEMBER 2019

Vermeulen Frank

Ghent University, Belgium

Lepore Giuseppe – DiSCI

*Department of History and
Cultures*

The Roman Colonisation and Urbanisation of Central Adriatic Italy

The study of the Romanisation of central Adriatic Italy, between the third and first centuries BC, and culminating in the reign of Augustus, is essential to decipher different processes of Roman and Latin colonisation and urbanisation in this region. This phase is marked here by the development of an extraordinary diversity of agglomerations and urban forms. Based on a recent analysis of some 40 Roman towns of the region, as well as on intensive archaeological field surveys in one of its most important valleys – of the river Potenza – the speaker will illustrate the impact of Rome on urban landscape dynamics in this pivotal part of Adriatic Italy. The ex nihilo creation and relative fast development of Roman colonial towns, such as the coastal settlement Potentia, and the impressive influx of viritum and veteran colonists in and around the region's inland towns, have created a real colonial landscape. Its urban centres, dynamic suburbia, and the networks of villages and farms that form the productive landscape supporting them, are now rapidly being revealed by way of new survey technologies, while 3D visualisations allow to understand the mark of Rome on the Italic communities living between the central Apennine mountains and the Adriatic Sea.

Donelan Peter

*Victoria University of
Wellington, New Zealand*

Carricato Marco – DIN

*Department of Industrial
Engineering*

Mathematics and Poetry: the Case of Dan Barbilian/Ion Barbu

The long histories of mathematics and poetics intertwine over the millennia. Yet, with the rise of the scientific and technocratic era in the last few hundred years, the common intellectual bonds between them have declined, most noticeably in the English-speaking world. There are few instances in the last century where celebrated poet and accomplished mathematician are descriptions of one and the same person. The Romanian geometer and symbolist poet constitutes one fascinating case, whose own reflections provide a tantalising glimpse of the connections between these apparently distant intellectual pursuits.



NOVEMBER 2019

Delucchi Emanuele

*University of Fribourg,
Switzerland*

Caselli Fabrizio – MAT

Department of Mathematics

Rigour and aesthetics: Japanese traditional mathematics

Japanese traditional mathematics developed between the Sixteenth and the Nineteenth century, in particular during a period of self-decreed isolation from foreign countries. The custom of hanging wooden tablets inscribed with geometrical figures and mathematical problems in Buddhist temples and Shinto shrines is perhaps the most suggestive expression of this mathematical heritage, and it is often taken as an example of convergence between mathematics and art. We will undertake a short journey through historical, artistic and scientific aspects of Japanese traditional mathematics, in a talk open to all audiences and with no mathematical prerequisites. Along the way, and through comparisons with our own "Western" heritage, we will hopefully see that mathematical thought is far from dry and impersonal. Indeed, mathematics is a most human science.

Nakamura Kazuhiro

*Nagoya University
Graduate School of
Medicine, Japan*

Central Neural Mechanisms to Defend Life from Environmental Stressors

Anyone is surrounded by a variety of environmental stressors (ES), such as heat, cold, infection, natural enemies, and starvation. Our brain has neural circuits to defend homeostasis and life from ES. By combining in vivo physiological, neuroanatomical, and molecular biological techniques, we have sought to elucidate the central neural circuit mechanisms that defend life from ES. We have revealed central circuits transmitting thermosensory information from the skin to the hypothalamic thermoregulatory center, which then transmits command signals to thermoregulatory effectors, such as brown adipose tissue and skeletal muscles, to defend body core temperature from environmental thermal challenges. We found that this circuit mediates fever, occurring during infection, as well as sympathetic responses (hyperthermia, tachycardia, hypertension) to psychological stress when animals confront enemies. We are currently studying how emotion and psychological stress affect the homeostatic 'vital' system in the hypothalamus. Recently, we also discovered a neural circuit driving hunger responses to starvation—reduced heat production and promoted feeding. The central circuits to protect homeostasis and life from ES constitute the fundamental system for life functions in mammals, including humans, and the knowledge contributes to understanding the etiologies of many diseases, such as obesity, diabetes and stress symptoms.

Tupone Domenico –

DIBINEM

*Department of Biomedical and
Neuromotor Sciences*



DECEMBER 2019

Schubert Christian

*Università Michoacana di
San Nicolás de Hidalgo,
Mexico*

Quantum field theory and the Schwinger pair creation

After a description of quantum field theory as the basic framework to describe all elementary particles and forces of nature, the phenomenon of pair creation by strong electric fields is described and put in a perspective as a key process which tests our knowledge of the microscopic world, including quantum mechanics and relativity.

Bastianelli Fiorenzo – DIFA

*Department of Physics and
Astronomy*

García Alvarez Jose Jaime

*Universidad del Valle, Cali,
Colombia*

Historic review, current applications and proposals to foster the utilization of bamboo in construction

The bamboo species *Guadua angustifolia* is readily available in various Latin American countries. *Guadua* forests play an important role to sequester carbon, to regulate the water cycles and to reduce erosion. As a construction material, *Guadua* played an important role to develop human dwellings in South and Central America during many centuries. Unfortunately, from the middles of the twenty century, *Guadua* has been replaced for materials like concrete and steel, whose production is highly contaminating. Nowadays, *Guadua* is generally regarded as a low-quality construction material for temporary applications. This misconception is in part due to poor practices during material treating and applications. One challenge that has to be overcome before increasing the use of bamboo in construction is to design efficient and cheap structural joints, that may be amenable to apply in large construction projects. Current joints that generally use through bolts and mortar injection have to be produced in a custom base as the material is irregular. These joints increase the weight of the structure and are prone to brittle fractures. We then propose the development of bamboo joints using thin steel clamps that can accommodate themselves to the irregularities of the material and do not require drilling holes. We present some applications that can be used as prefabricated elements in housing projects.

Molari Luisa – DICAM

*Department of Civil, Chemical,
Environmental, and Materials
Engineering*





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