INSTITUTE OF ADVANCED STUDIES

ISA Lecture 2019

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Preparing Teachers for Career-Long Learning: Findings from the “Learning to Learn from Mathematics Teaching” Project

Teacher preparation programs face a significant challenge in determining how to design learning experiences that develop the combination of knowledge, practices, and dispositions needed for effective classroom teaching. Even well prepared candidates still have much to learn, once they enter the profession.

My research asks whether teacher preparation can be designed to develop competencies for learning from the daily work that teachers conduct in their classrooms. In this presentation, I summarize the conceptual framework, methods, and findings of the “Learning to Learn from Mathematics teaching (LLMT)” project. This study documented pre-service teacher learning from a course that integrated video-enhanced activities, focused on structured and collaborative analysis of practice, into mathematics methods instruction. In addition, it followed teachers longitudinally for three years after graduation. When compared to a group of pre-service teachers who attended a more typical mathematics methods course, LLMT participants fared better on several aspects of learning-from-teaching competence. Follow-up data also suggested the long-term impact of these LLMT pre-service experiences on participants’ first three years of full-time teaching.

I will discuss implications for the design of pre-service teacher learning experiences and for future research.

Re-emergence of societal movements in South America: Indigenous peoples and struggles for their collective rights in Bolivia

This project focuses on the re-emergence of indigenous societal movements in the current context in part of the Andean-Amazon region. The study will analyse some socio-territorial conflicts in the lowlands of Bolivia, where the meaning of pluri-nationality, Vivir Bien and indigenous autonomies are currently still disputed as possibilities for State transformation in a context of extractivist intensification and expansion. Therefore, the main objective of this research is a deepened understanding of socio-territorial conflicts and the re-emergence of Indigenous subjects claiming their collective rights, which can produce forms of resistance and protest capable of questioning state policies and the political regime.
**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.

**Dante and the Foundations of Argentine National Identity from 19th to Early 20th Century: Politics, Literature, and the Dream of a New Nation from Italy to Argentina**

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—i.e., the poet that foresaw in its verses not only the political, but also the linguistic unity of the country—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:

i. an introduction to the reception of the Italian romantic interpretation of Dante in the first generation of Argentine intellectuals in the mid-19th century;
ii. the first Latinamerican translation of the Divine comedy published in 1897 by the President of Argentina and former General of the allies forces of Argentina, Brasil and Uruguay, Bartolomé Mitre;
iii. Leopoldo Lugones’s interpretation of Dante as an unexpected father of the newly born Argentine “people”;
iv. Victoria Ocampo’s book on Francesca and Beatrice, published in 1924;
v. Borges’s essays on Dante, read in the broader context of his interpretation of Argentine national identity.
Barbosa Silvia E.  
*Universidad National Del Sur, Conicet e Plapiqui*

De Angelis Maria Grazia – DICAM  
Department of Civil, Chemical, Environmental, and Materials Engineering

**Smart plastics for the sustainable growth of developing Countries**

Plastic materials are commonly believed to be the cause of the devastation of sea life and other natural environments. The intelligent use and fabrication of plastic materials can help to invert this trend, especially in developing Countries which can assimilate more quickly new technologies and products. Indeed, in Countries like Argentina, the role of polymeric materials can contribute to the sustainable development of Industry and Agriculture and represents an opportunity of growth. Many examples will be provided in the seminar, such as:

1. The optimization of the properties recycled plastic polymer blends, and of the recycling process itself, to help their re-introduction into market and favor a circular economy for plastics.
2. The fabrication and testing of biodegradable renewable materials for food packaging from animal or vegetal sources like gelatin, glycerol, corn starch.
3. The addition of active components into polymeric materials for food and crop bio-protection during their storage in small rural farms and transportation.
4. The improvement of common plastic materials used in medical devices, by anti-bacterial functionalization.

In conclusion, the implementation of such materials and technologies in real cases, in different scenarios and operative conditions will be analyzed.
Depression and Stigma in a Mediate World: American and Italian Illness Narratives on YouTube

Amidst the vast and disparate online space that is YouTube, is the genre of video logs (i.e., vlogs) wherein ordinary people share their sobering accounts of coming to terms with profound life events. Vlogs created by individuals struggling with depression are a case in point. The presence of these vloggers, embracing “The Broadcast Yourself” ethos of YouTube, signals a sharp departure from the longstanding tendency to push individuals with mental health problems into the sociocultural shadows.

We analyze 25 U.S./English-language and 25 Italian-language depression vlogs on YouTube as public representations of the lived experience of depression and the character of stigma across time and place. Using a thematic narrative method, we compare U.S. and Italian vlogs with an eye toward their shared and divergent use of biomedicine as a meaning-making framework and a cognitive-strategy to counter stigma. We also explore differences in claims-making concerning the importance of coming out as someone with mental illness as a form of stigma-resistance.

In sum, we chart the shared and divergent features of the U.S. and Italian cultural landscape that influence “speaking of sadness” on YouTube. We reflect on how the ubiquity of YouTube and other social media have created new platforms through which our everyday lives are reflected upon, construed, and represented. As such, we contribute to emerging theorizing about the self and the mediate social construction of reality.

Le trasformazioni del paesaggio istriano dall’Antichità al Medioevo alla luce dell’archeologia

"Il paesaggio dell’Istria antica è caratterizzato da un gran numero di siti rurali di tipologie e caratteristiche molto eterogenee, ma che presentano numerosi elementi che permettono di ricostruire le attività produttive principali – prima tra tutte la coltivazione degli ulivi e la produzione di olio, nonché la produzione di vino e, sulla costa, l’allevamento di pesce, accompagnate da altre attività sia agricole sia di sfruttamento delle risorse naturali (sale, allevamento, estrazione di pietra, ecc.).

A queste si affianca, in alcuni casi, la produzione di contenitori da trasporto in ceramica e altre produzioni fittili. In molti casi i proprietari dei fondi si possono ricollegare a famiglie senatoriali e agli imperatori.

Una prima riorganizzazione delle strutture rurali istriane si registra tra la fine del II e il III secolo d.C. Questa tendenza continua anche nei secoli successivi, obliterando spesso strutture produttive e creando nuovi spazi abitativi, mentre in altri casi con nuove attività economiche.
Managing Work Life Boundaries in the Digital Age: Improving Wellbeing On and Off the Job

During this keynote, Ellen will discuss the concept of boundary management and the importance of building boundaries between work and non-work roles in a way that fits personal preferences and those of family stakeholders. Ellen will present also the result of empirical research demonstrating the impact of boundary management on employees’ work and nonwork outcomes, including their well-being. Importantly, she has also invented an instrument that can help participate discern their boundary management style and understand the type of behaviors needed to accomplish such style. She will share with participants on the relevance of Work-Life Strategy as a tool to manage an increasingly diverse talent pool with different ways of managing their Work-Life needs, as well as offer ideas on creating a flexible and results-oriented work place.

Fear: media, politics and culture.

Our objective is to create an interdisciplinary and international research devoted to the theme of fear and its conceivable developments. We take into account the contemporary media landscape, where fear is shaped as a key factor in the representation of social and political instability (Bourke 2005). The social construction of fear is mainly encouraged by the media. The discourse of fear is present in news as well as on the internet and in social media. The exploitation of the fear imaginary therefore runs through the entire “media ecosystem”, so much so that the boundary between real and fictional “is no longer so evident or well-traced” (Ciceri 2001). We can say that the audiences’ life and experiences are permeated by a dense and, at the same time, unstable economy of emotions, strongly connected to economic, political and social precariousness. Media do not therefore only exercise informational functions, but they activate latent processes, amplifying the emotional effect in the public sphere (Bourke 2005). A good example was the Fukushima’s disaster. This crisis was well followed by media all around the world. Media told the event differently because of different cultural values. Starting from this synthetic premise, our goal is to organize a seminar based on the following topics: fear, media, globalization, culture

Diving In: From Refugee to Refuge

Memories are houses: different constructions of memory produce different places of coexistence. What is the architecture of displacement? Decolonising discourses risk installing a disabling opposition between Indigenous and non-Indigenous senses of place: in reality, a postcolonial heritage recognizes the plurality of ethnic, cultural & geographical origins and the precarity of any claim to territorial priority. How, in this context, are refugees included? What is the labyrinth of entangled origins that provides the template of future inclusion? A little known feature of Greek religious buildings in exile is their provision of transitional zones where refugees might find shelter. The Greek settlement of Poseidonia (Paestum), Gulf of Salerno, was established by twice-exiled communities; Greek colonies throughout the Mediterranean had plural origins and temporary futures. What are the implications of this ‘transit urbanism’ for how we relate and relate to contemporary refugees? To bring focus to these questions, this lecture uses the famous tomb painting known as “Il tuffatore” as its point of departure. Discovered in 1968, this unique image belongs to the cultural milieu of the three great Doric temples for which Paestum is famous. It offers a striking metaphor of ‘diving in’, as a technique of physical migration, environmental adaptation and even social design. It suggests that remembering is always remembering, the performance of new places of sociability, new human bridges.
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."
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.

The challenge of sleeping through the night: a developmental or parental goal?

A good night sleep is essential for children’s development. Maintaining continuous sleep is among the developmental tasks of infancy and a pattern valued by parents. Yet, night-waking is common during the early years and most likely serves development. Parents often seek advice not only to ensure that the child is getting a good night sleep but also in order to decrease prolonged nighttime caregiving. In this talk, aspects of children’s and their parent’s needs will be highlighted and finding from a series of studies, including intervention research, will illustrate the interplay between developmental and parenting tasks. Drawing from evolutionary, motivational and neurodevelopmental framework the multiple challenges of nighttime parenting will be discussed.
Swoap Steven John
Williams College

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.

Silvani Alessandro – DIBINEM
Department of Biomedical and Neuromotor Sciences

Wade Robert
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Why has income inequality been neglected in economics and public policy?

Commentators say that Trump’s victory has stimulated a wide debate about long-festering issues of class, race, gender, and democracy. The obvious question, then, is why these ‘long-festering issues’ have received limited attention before now. This chapter focuses on why income inequality, in particular, has been neglected by economists and policy makers even as it has risen in most of the West over the past three decades.

We begin with the deep causes of neglect rooted in the shift of western capitalism from ‘control of capital’ in social democracy to ‘control by (highly concentrated) capital’ in oligarchic neoliberal democracy. We continue with why the middle classes have acquiesced for decades as income concentration rises; and go on to conservative neoliberal ideology, right-wing think tanks, and center-left political tactics. Finally, we discuss professional economics, and the way that the paradigm of the neoclassical mainstream has occluded rising inequality as a social or economic problem.
**McNeill John R.**  
*Georgetown University*

**Alacevich Michele – SPS**  
*Department of Political and Social Sciences*

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**Martinez-Cue’ Pesini Carmen**   
*University of Cantabria*

**Guidi Sandra – DIBINEM**  
*Department of Biomedical and Neuromotor Sciences*

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**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.

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**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.
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.
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.

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').

From high abundance to high costs: how (limited) availability of plant nutrients shaped up next scientific challenge

Stringent environmental regulations and population growth are necessitating a significant increase in crop production using sustainable nutrient sources. Nutrients, such as nitrogen, N, and phosphorous, P, exhibit very different availability, accessibility and sustainability patterns. N, vital for plants and largest nutrient by volume, is abundantly present in air as a very stable dinitrogen molecule and requires external hydrogen source for its activation. Conversely, P is abundantly present in soil but in rather localized locations and is of low mobility in soil. The work presented addresses the diversity of the nutrient sources and discusses the methods for their improved managed. It doing so it resonates across many fundamental disciplines and professional fields, including surface science, chemistry and chemical engineering while also propagating into wastewater treatment methods and agriculture due to the need of nutrient recovery from wastewater sources. The discussed strategies also exhibit potential applications for recovery of other important resources from diverse waste streams. The synthesis of materials for improved nutrient management, relevant kinetic and mechanistic information is important for natural aqueous environments and has a profound impact on environmental chemistry, human health and wellbeing.
Is Inequality Increasing in r-g? Piketty’s Principle of Capitalist Economics and the Dynamics of Inequality

In his 2014 book, Thomas Piketty argues that wealth inequality is sharply increasing in the r-g gap and refers to r > g as ‘the central contradiction of capitalist economics’, where r is asset returns and g is real income growth. To assess whether inequality is increasing in the r-g gap we: 1) construct unique annual data on asset returns for a balanced portfolio and several other variables for Britain over the period 1210-2013, and 2) examine whether the dynamics in the wealth-income ratio and capital’s income share are governed by r–g. We show that r and g are robust and significant determinants of wealth and income inequality and that they have been the major forces behind the large inequality waves over the past eight centuries.
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.

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.

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 perché 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 e 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’auditorio 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.