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### **RESEARCH PROJECTS**

**Research program:**

***“The concept of sovereignty in the epistemology of complexity:  
for a new idea about a plural Europe”***

***Annex Code 1***

**Department of Human and Social Sciences**

**Tutor: Prof. Roberto Salvatore Arpaia**

#### **Description**

The project focuses on the analysis of the modern understanding of the concept of sovereignty, outlining its historical development to the contemporary period in which it is in crisis.

Today's reflection on the overcoming of the crisis, before a political and structural change of state institutions, first of all requires a new paradigm of thought that is based on the complexity of the globalized world, that brings continuous and instant interconnection individual actors together, who are demanding a decentralization of authority and power both at the level of supranational entities, both on the local institutions plan. A second analysis element resides in the decomposition of the production cycle of industrial production, which is displaced in various parts of the world, causing a considerable reduction in the economy of the State control. The multinationals have become new global players of the utmost importance; they locate the production in different States to obtain higher profits, often by breaking the rules and leaving the premises of their administrative activities and policies in the countries of origin, emptying it of sovereignty of the host country. Another important factor of relativization of state authority resides in the new dimensions of globalized conflict: terrorism and hardening the fundamentalists and neo-nationalists have no clear boundaries, but popping up all over the globe, providing new critical planetary dimensions.

The first part of the research, about six months, will focus on the collection of doctrinal sources concerning the conceptual development of the idea of the nation-state: centralized, efficient, bureaucratic, smooth inside, capable of settling internal disputes of individuals, as popular in modern times, but having its beginnings in the Middle Ages, especially in the age of the councils and dominations. The political and religious transition from a legitimacy coming from the divine laws and ancient tradition to a legitimacy that came from the people, bourgeois understood as the union of individual free individuals and equal to one in front of others, led to the idea that individuals in order to realize their interests, needed largest absolute body, which would guarantee peace on the individual territories.

For these reasons, the modern state is founded on the substantial overlap between political and legal, in which the boundaries played the fundamental role of defining an inside and an outside. The institutional form of the national state, then, was perceived as an all-encompassing and all-encompassing reality, which finds its climax in the nineteenth century and into the twentieth century, when there was an attempt to create a state basically mono-ethnic based on an idea of citizenship exclusive and self-referential, not inclined to share his authority with no other instance. After 1648 the religious approval has been intertwined in the institutional approval, political and cultural; This led many of centralization processes on different levels: political, linguistic, economic and social. It emerged the idea of the existence of a basically indissoluble link between a territory and a single nation and that possession of that territory was constitutively defining national identity. From this it arose the dangerous corollary that no other nation could have links with that territory.

The second part of the project, which will occupy the remaining six months of research, will be to rediscover the role of the European originality to overcome the current crisis. Europe needs to rediscover its own foundations in the

positive reinterpretation of its diversity in dialogue between Christians, Jews, Muslims, Greeks and Romans. The historical and epistemological analysis of the conflict and complementarity between these cultures, which in turn have influenced each other, make it possible to understand how the origin of Europe there is a single foundational principle. The mythological fraternity of the notion of "homeland" has established family relationships between individuals with no family relationship: the sharing of symbols, monuments, traditions, national languages promoted by national states led to political and cultural homogenization among individuals. Between national states territories are divided by sacred and inviolable defined borders. However, these conflicts are inadequate and contradictory are revealed: many border areas were and remain fluid, multi-ethnic, and often the common sense of national belonging has degenerated into extreme nationalism, triggering cause of a long series of conflicts.

The goal of the project is to rediscover the past plural Europe and show how the concept of absolute sovereignty of the State has had a history and has been supportive to different ideologies. The epistemology of complexity allows you to critically analyze the traditional ideology of the nation state, the daughter of a reductionist and mechanical conception of reality, which seeks to establish "objective" truth able to understand each other all individuals. The idea of the border is precisely that of rationality, understood as the privileged path to the objectivity and defined by purification with respect to each secondary interference.

This conception, however, is historically determined. The great historian Eric Hobsbawm had once coined the important idea of "invention of tradition" just to show the creativity of national construction, the product of thorough DIY in which certain aspects were exalted while others were underestimated, or simply eliminated, the historical tradition of a nation made absolute and impermeable. So Europe must again become model of coexistence between different peoples opening to the Mediterranean, definitely a place of antagonisms, but also for meetings, exchanges and mestizo.

The originality of this work, therefore, will reside in the historical and political reconstruction of cultural contamination occurred during the modern era through interdisciplinary analysis, taking into account the interconnection of the various actors involved, in the perspective of complex survey on diversity. The result will defend the European federalist thesis, in which the identity of each individual country is preserved and enriched but not stiffened within predetermined boundaries. Only in this way they will be able to address the economic, cultural and social challenges that globalization has brought with it, by designing not as a closer bond which adapt, but as a real opportunity to achieve to increase the knowledge and awareness.

**Research program:**

***"Title of the project: Women from the margins to the center: biography, spaces, policies"***

**Annex Code 2**

**Department of Human and Social Sciences**

Tutor: **Prof.ssa Cristiana Ottaviano**

**Description**

This research project aims at analyzing life trajectories of women living in urban peripheries. The literature underlines some questions such as: what happens to girls and women living in the suburbs? How does the scenario of their everyday life influence the careers of these women when they are living in "nomad-camps", social housing neighborhoods or in areas of urban decay?

The scientific literature affirms that the place where people live affects their *agency*. Being born and growing up in a nomad camp located at the outskirts of the city has very different effects from growing up in a central area of Rome. At the same time, researches clearly show that in these contexts girls and women have to face a double marginalization: while the gender gap is endemic in the country, it is even stronger where housing solutions are precarious. In these contexts we can find higher drop-out rate, lower access to employment or to health services, limited economic independence etc. Those structural limits that define the opportunities of each single person affect stronger girls and women than boys and men.

Within this scenario, it is relevant to underline that, although doubly marginalized, girls and women are not necessarily passive actresses of their destinies. Even if living in a "nomads camp" or in a peripheral area of the towns, women, and Roma women among them, are able to figure out and implement strategies aiming at reconquering power on their life and reshaping their life trajectories.

Within the single life trajectories, a *fruitina*, an early marriage, an unexpected pregnancy, moving away from father's household, being hired or even meeting the family expectations can be understood as "turning points" that women can manage aiming at changing or acquiring their status within, or outside, their kinship or their community.

Public policies, both the ones governing urban spaces and those reshaping welfare provisions, affect the strategies women can carry out because they define the opportunities of access to urban places and social services. Therefore, when analyzing life-trajectories of women living in urban peripheries, we need to understand the role played by policy-makers, public officers and social workers implementing policies at the street-level.

The first phase of the project will focus on the literary review, aiming at discussing and bridging theoretical perspectives and empirical findings coming from the "life-trajectory" and the gender-studies perspective, with a specific focus on suggestions coming from Romani Studies.

Following, the researcher will carry out an ethnographic survey mapping the possible contexts for fieldwork. Besides the sociological data, the research will also focus on all of the publications coming from NGOs and social workers.

Research activities will include the identification of the target groups that will be composed of Italian or foreigner women and Romanian Roma women. Among these groups, the researcher will implement a wide range of qualitative methodologies such as participant observation and interviews with key witnesses, and the analysis of policy documents (political documents, agreements with the third sector, the texts of projects etc.).

Also the study of documents relating to the sites chosen for the research.

The research project aims at achieving results on different levels.

The first concerns the development of an interdisciplinary approach for understanding intersectional phenomena. In these terms, the research will match theoretical and empirical insights coming from sociology anthropology, political science and pedagogy.

The second concerns comparing life trajectories of women belonging to minority groups and not; focusing on their every-day life spaces, we aim at criticizing those ethicizing approaches which are spread in the scientific and political debate about Roma in Italy and in Europe.

The third concerns understanding how life-trajectories of Roma and non-Roma women are shaped by the interplay between three different factors: the physical marginality, their agency and the effects of the policies. While the correlation between individual agency and living suburban areas has been deeply analyzed, also considering the gender differences, this research aims at highlighting the differences between women coming from minority groups living in the differential housing contexts (eg. the nomad camps) and women belonging to mainstream society.

Furthermore, the research aims at establishing a dialogue with the existing literature that analyzes the so-called path of "success"

**Research program:**

***“Globalization, trade, and correspondence: Tracing the historical roots of Business English in digital archives”***

**Annex Code 3**

**Department of Foreign Languages, Literatures and Cultures**

Tutor: **Prof.ssa Marina Dossena**

**Description**

On the basis of the topics identified within the Horizon 2020 program, especially in relation to the interpretation of the past and the exploitation of new digital resources, in this research project we intend to investigate the historical origins and main stages of development of English as a specialized language of business transactions in the globalized world. Nowadays the role of English as the lingua franca par excellence of international business communication is undisputed; this predominance has given rise to numerous studies that focus on the use of English in transnational and contemporary intercultural contexts (e.g. Bargiela-Chiappini 2009, Garzone / Gotti 2011 Bargiela-Chiappini et al. 2013), along with more recent studies analyzing the role and impact of new technologies in the same field (Darics 2015). The goal of this project is to fill a significant gap in the study of English as a medium of communication in global commercial networks by examining the dynamics and ways of its development in the key period of its expansion, i.e. the nineteenth century.

The project aims to shed light on the features of 19th-century business English comparing two types of texts: authentic business letters and the business correspondence manuals published in the same years. Letters were the most important textual genre of nineteenth-century commercial communication: in the absence of other communication technologies and given the almost constant difficulty, if not impossibility, to meet in person, trade had to rely on the exchange of a wide range of professional documents written in epistolary form. This explains why the expansion of global trade networks throughout the century was accompanied by a significant increase in the number of correspondence clerks. To acquire the knowledge necessary to manage the flow of mail and to write properly respecting the rules of proper professional conduct, these employees relied on business correspondence manuals. The study of these manuals is nevertheless only in its initial stage: although we are certain of their popularity, the relationship that existed between the recommendations of manuals and the actual usage found in authentic business letters is still underinvestigated.

To achieve the aims of this study, the following activities will be required, possibly in three phases of about four months each; at first two corpora of adequate size will be compiled, drawing on papers already digitized and accessible online at European and Canadian or American archives: one of authentic letters and one of business correspondence manuals published both in Great Britain and the United States. In the next step the two corpora will be tagged and annotated, in order to examine their key features; the third and final phase will be devoted to the comparative analysis of the two corpora and the preparation of results for publication.

**Aims**

Even at an international level, this project is the first to propose a systematic comparison between authentic nineteenth-century business letters and the letter-writing manuals published during the same period. The choice of this historical phase is motivated primarily by the growing scholarly interest in these decades witnessed in recent years: indeed, the project is in line with the latest research trends, which consider the nineteenth century a key period in which the spread of standardized uses among the lower-middle classes of Victorian society and the increase in the general level of education laid the basis of PDE (Beal 2004, Kytö / Ryden / Smitterberg 2006, Tieken-Boon van Ostade / van der Wurff 2009, Dossena 2015). In particular, this project aims to continue the work done by linguists who have studied authentic LModE correspondence (Barton / Hall 2000, Dossena / Tieken-Boon van Ostade 2008, Dossena / Del Lungo Camiciotti 2012), paying special attention to business correspondence (Dossena / Fitzmaurice 2006). Through comparisons of the main linguistic and pragmatic strategies presented in model letters and those actually used in authentic letters it will be possible to identify the distinctive features of nineteenth-century business English. The linguistic analysis of the salient features of these two letter types will enable investigations aiming to trace the historical roots of business English, an indispensable tool in today's globalized world.

<p style="text-align: center;"><b>Research program:</b> <i>"Russian visitors to the Accademia Carrara museum in the nineteenth and twentieth centuries"</i></p>
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**Annex Code 4**

**Department of Foreign Languages, Literatures and Cultures**

Tutor: **Prof.ssa Maria Chiara Pesenti**

**Description**

Project description (traduzione in inglese):

The research project aims to contribute to the analysis of the intercultural relationships between Bergamo and Russia in a period undoubtedly linked to the identity of art history in Europe.

The aims are as follows:

- To make a careful survey of the documents (diaries, memorials, letters, essays) testifying to the visits of Russian intellectuals to the Accademia Carrara museum and its picture gallery in the nineteenth century and early twentieth century;
- To translate unpublished documents;
- To identify the paintings which Russian visitors actually viewed, through the comparison with the museum acquisition register of pictures;
- To compare Russian visitors' preferences and descriptions, considered in relation to the historical and cultural context;
- To trace a convincing overall outline of the entire phenomenon analyzing the evolution of the Russian visitors' artistic taste.

**Articulation and description of the research**

The research project 'Russian visitors to the Accademia Carrara museum in the nineteenth and twentieth centuries' focuses on the fundamental role played by the Accademia Carrara museum in the attractiveness exerted by Italian art on Russian intelligentsia and, more generally, in the interaction between these two great European cultures.

In the late eighteenth century, the Grand Tour, the traditional journey around Europe undertaken mainly by upper-class West European young men, becomes very popular among Russian intellectuals and artists. They consider the trip to Italy a real pilgrimage to the country of beauty and art, of the harmony between form and spirit. Although Bergamo is not a Grand Tour obligatory stop, Russian tourists are driven by curiosity to visit G. Quarenghi's homeland. In the course of time the town also becomes for Russian visitors the homeland of G. Donizetti, Harlequin and of many other illustrious figures of the arts, letters and music. One of the most attractive sights of the city is the Accademia Carrara museum, whose picture gallery is minutely described in his travel diary by the leading poet V. Zhukovsky, tutor to tsarevich Aleksandr Nikolaevich, the future tsar Alexander II.

For Russian tourists the charm of Bergamo does not lose intensity at the end of the era of the Grand Tour. On the contrary, it has renewed over the decades thanks, for instance, to people like art historian Giovanni Morelli, one of the great collectors who have made Accademia Carrara a unique museum in Italy. The great notoriety of Morelli, indeed, attracts to Bergamo numerous Italian and foreign scholars, eager to admire the masterpieces on which Morelli has built his innovative art attribution theories: among them we find Pavel Muratov, who laid down his observations in his *Obrazy Italii* (Images of Italy, 1911-1912).

**Calendar of activities:**

Period (Months)	Activity
Preliminary Phase (1 month)	bibliographic study and theoretical and methodological setting of research
Phase 1 (3 months)	collection of the material
Phase 2 (4 months)	Translation of the unpublished documents and reconstruction of each visit
Phase 3 (4 months)	Drawing up a monograph based on the research results

<b>Research program:</b> <b><i>"Books in art, art in books"</i></b>
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**Annex Code 5**

**CAV - Centre for Visual Arts**

Tutor: **Prof. Giovanni Carlo Federico Villa**

**Description**

**Research aims**

The applicant will be involved in the research group of the University of Bergamo, coordinated by prof. Giovanni Carlo Federico Villa, in the research activity "Books in art, art in books", SSD L-ART/02 STORIA DELL'ARTE MODERNA Academic Field 10 - Scienze dell'antichità, filologico-letterarie e storico-artistiche. Academic field: 10/B1

**Books in art, art in books.**

The project is meant to approach a very important research topic at an iconographic level for its wide interdisciplinary implications, nowadays by far little outlined in its own. The rich branch of Portraits with book, following the iconography of the printed paper from the fourteenth century to the nineteenth century, cross the fashionable portraits. Rolls, illuminated codex, manuscripts and liber quadrates: hold or browsed, open or closed, leaning over a desk or placed in the library of a private study. These are not just simple household objects, but significant items carrying a strong symbolic and metaphoric connotation: as the dress, they define the identity of the people to whom they are associated. And just like a fashionable dress, the book - and its contents - reflect the cultural, social and political changes of a period of time. In the early fifteenth century votive portraits, the book is often the depositary of the God Word ; the secularization of the culture and the humanities libraries will change the scenario and the people portrayed will never be engaged and absorbed while reading, but holding in their hands elegant and polished manuscripts to show their rank, already made clear by their outfits; practical booklets, pamphlets, music scores and fluttering papers evoke the brilliant age of the Enlightenment with its concerts, and its drawing rooms and the Grand Tour, and take on various meanings in the court portraits (Madame de Pompadour is often portrayed surrounded by drawings and publications as an educated femme savante). So, fashion goes hand in hand with the imaginary of reading and literature, in a continuous evolution of styles; and the painter is now tailor, now editor-printer-binder.

The research will have the following schedule: the bibliographic preliminary research; the iconographic research; the analysis of the literary, historical and artistic sources; the accurate historical and aesthetic analysis of the clothes and the male and female accessories and its related cataloguing; the upgrade of the Arte| Moda ARCHIVE sheets through the Back Office of the CMS archive; the publication of the results.

As part of the implementation of the Centre of Visual Arts projects focused on the research on the parallelisms between art and fashion, the post-doc fellow will have to publish online the results of this work either on special issues or on individual studies and to independently manage the following activities: the fulfilment and the periodic implementation of the archive Arte| Moda ARCHIVE, focused on iconographic documents related to fashion from the fourteenth century to the nineteenth century to be developed through the study and research of both iconographic and textual documents concerning the mentioned periods; the maintenance and the updating of the websites related to the Centre of Visual Arts: "Archivio iconografico"; "Arte|Moda ARCHIVE" ; "Documents"; the layout of the electronic journals of the Centre of Visual Arts ( "Prospero's", "Elephant & Castle").

<p style="text-align: center;"><b>Research program:</b> <b><i>“Brand Experience” a systematic literature review and empirical investigation</i></b></p>
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**Annex Code 6**

**Department of Management, Economics and Quantitative Methods**

Tutor: **Prof.ssa Daniela Andreini**

**Description**

**Research project**

The brand experience constitutes a primary focus of analysis in consumer research (Holbrook and Hirschman, 1982; Thompson et al. 1989; Schmitt, 1999; Arnould and Thompson, 2005), in the managerial practice for physical products (Hock 1986, 2002; Tse e Lee, 1993), services (Bitner 1992; [Winsted, 1997](#)), tourism (Otto, 1996; Wang, 1999) and retailing ([Hibbert et al., 2001](#); Ballantine et al., 2010).

Moreover, for the Marketing Science Institute (<http://www.msi.org/research/2014-2016-research-priorities/>) the “brand experience” is one of the research priority in 2016.

The research on brand experience is still at a nascent stage. Despite notable studies have provided relevant and compelling definitions and operationalization of the brand experience construct (Schmitt 1999; Brakus et al., 2009) we still have little knowledge and understanding of the nomological properties of these construct and of the theoretical perspective though which the concept of brand experience should be approached. For example, it is not clear if consumers’ brand experience varies at different phases of the purchasing process (before, during and after the purchase) (Brakus et al., 2009; Brakus, Schmitt e Zhang, 2008; Arnould, Price e Zinkhan, 2002; Holbrook, 2000).

The motives behind these shortcomings are largely attributable to a scarce anchorage of the brand experience construct to specific theoretical perspectives through which the brand experience concept is tackled. As instance, while individual lived experiences should be phenomenologically investigated (Thompson et al. 1989), the major parts of studies on brand experience available to date adopt positivistic methods of enquiry and look at the ability of brand related stimuli to generate different levels of brand experience and/or at how consumers’ react to these stimuli (Brakus et al., 2009).

Given these gaps, the aim of this research project is to map the available literature on brand experience and to propose a research agenda based on a post-structuralist conceptualization of brand experience. To do so, the first phase of this project requires a systematic literature review of “brand experience” phenomenon; the second phase will focus on an empirical analysis in order to validate the literature review.

During the first phase of the project, the researcher will have to conduct a systematic literature review. The systematic literature review has been defined as an evidence-based tool for scientific knowledge creation, both in medical (Greenhalgh, 1997; Davies and Crombie, 1998), and social sciences (Denyer and Neely, 2004; Tranfield et al., 2003; Rousseau et al., 2008; Jones et al., 2011).

Systematic reviews follow a rigorous, clear and transparent method of data collection and analysis, ensuing reliable, replicable and synthetic results (Tranfield et al., 2003). Moreover, systematic literature reviews help in identifying the communalities and differences in researches studying a specific phenomenon, enlightening the established and replicable results and thus evidences of new scientific knowledge (Rousseau et al., 2008; Tranfield et al., 2003).

Finally, in accordance to recent systematic literature reviews this researcher will follow the path traced by Jones et al. (2011), using a thematic analysis (Braun and Clarke, 2006), an inductive method to study and inquiry qualitative evidences and researches.

During the second phase of this research project - the empirical analysis-, the researcher will apply a multiple case study methodology. Thus the researcher will have to select significant cases (Yin, 1994), able to describe the “brand experience” phenomenon in a depth and rich way (Siggelkow, 2007).

Through a theoretical sampling method (Eisenhardt e Graebner, 2007; Eisenhardt, 1989), the multiple case study is of particular relevance to explore, extend and elaborate the existing theory, both in terms of concepts and in terms of relationships between theory components (Eisenhardt e Graebner, 2007). Moreover, the multiple case study methodology enhances the reliability, validity and replicability of results (Eisenhardt e Graebner, 2007).

The second phase of this research project encompasses also a triangulated research strategy, and thus interviews (Strauss e Corbin, 1990; Thompson, 1997), informal discussion (Carù and Cova, 2007) and ethnographic analysis (Kozinets, 2002). This triangulated research strategy is relevant for a richer theory development (Strauss and Corbin, 1990).

**Schedule**

<b>ACTIVITY</b>	<b>TIMING</b>
Research, gathering and selection of relevant literature; thematic and ontological analysis of “brand experience” phenomenon	2 months
Triangulation and validation of the ontological analysis	1.5 months
First draft of the paper and presentation to the EMAC annual conference	1.5 months
Qualitative research design (interview, informal discussion, ethnography)	1 month
Data gathering	3 months
Triangulation of data and data analysis	2 months
First draft of the paper and presentation to the CCT annual conference	1 months



**Department of Management, Economics and Quantitative Methods**

Tutor: **Prof. Giorgio Consigli**

**Description**

**Research project**

OECD pension systems have undergone a relevant restructuring and transition process over the last few years towards the establishment of a three pillar system, based on a reduction of the weight of classical pillar I social security systems in favour of pillar II private sector-specific and corporate occupational funds, largely implying a growing involvement of insurance companies and pension funds, as well as an increasing popularity of pillar III individual retirement policies.

Limiting our interest to saving processes in the retirement sector and specifically on pillar II, thus primarily linked to large corporation and industrial sectors, occupational funds concentrate a relevant set of complex modeling and mathematical issues, recently further increased by the introduction of regulatory frameworks in OECD countries (cf <https://eiopa.europa.eu> European Insurance and Occupational Pensions Authority).

Those methodological implications emerge in particular when taking the stimulating perspective of an intertemporal and intergeneration transformation of saved income for deferred consumption leading to an optimal dynamic asset-liability management by a defined benefit pension fund (PF).

Consider in particular an economic agent (a CEO or a central investment committee, or alike) who on the grounds of a received mandate, is seeking a long-term PF sustainability goal under an extended set of risk constraints. This problem carries indeed a set of sub-problems with relevant statistical and mathematical implications:

- A market-based or market-consistent valuation of liabilities and assets: on the asset side, this involves an investment portfolio needed to fund the pensions payments net of contributions and on the liability side the defined benefit obligation (DBO) of the Fund.
- The estimation of the risk exposure related with the liabilities: as the market yield curve varies, so will discount factors adopted to determine the PF DBO. Furthermore PF liabilities depend on adopted pensions indexation schemes and their revaluation in real, inflation-adjusted terms, requiring the use of stochastic methods. Finally PF are exposed to the so-called longevity risk and members population dynamics.
- The definition of an objective function capturing a trade-off between short- and long-term decision criteria: among the former an adequate liquidity and interest rate risk-immunization approach and medium-term profitability and among the latter the minimization of solvency risk and maximization of risk-adjusted returns.

The adoption of a dynamic optimization approach appears in this respect a first choice, following recent experiences particularly in UK and Northern European economies. This project will accordingly focus on the following research goals, with their respective timings:

- a) The statistical analysis of aging processes in Europe and the definition of a stochastic mortality intensity model. First two months.
- b) The definition of an ALM model for a representative case study (in cooperation with UBI PF or Unicredit PF, already ongoing cooperation): definition of inflation and interest rate stochastic processes. Liability risk estimation approach. Four months.
- c) Financial markets models and benchmarks for long-term statistical analysis. Months five and six.
- d) Solution of optimal liability replication model relying on robust optimization and stochastic optimization techniques. Months five to eight.
- e) Simulation of demographic and financial factors, occupational PF equilibrium analysis and stress-testing analysis. Months 7 to 10.
- f) Game-theory based trade-off risk-reward analysis at sector level. Months 10 to 12.
- g) Macroeconomic and policy implication study and pension systems transition analysis. Months 11 and 12.

<p style="text-align: center;"><b>Research program:</b> <b><i>"Identity and femininity. The contemporary debate and its perspectives"</i></b></p>
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**Annex Code 8**

**Department of Letters, Philosophy, Communication**

Tutor: **Prof. Giovanni Bottioli**

**Description**

The debate on the identity theories in all its aspects remains absolutely crucial in the contemporary world: to the dynamism and uncertainty of what is called "liquid society" (Bauman), we should add the mass movements linked to the international political events. In recent decades, philosophy and human sciences have directed their attention to the problem on identity, showing an inexhaustible complexity. Some thoughts remain alive and challenging, others are rapidly aged.

This research will focus on the female identity, and on the most recent debate. The aim is drawing a map of the main positions.

The main goal is the achievement of a high rate of disclosure, rigorous but accessible to the educated reader, a research able to introduce the main points of the most recent debate on the female identity. The most popular texts available today (mostly in English) appear aged and generally unilateral. There are also interesting essays, but too tied to the technicalities of a given concept.

To reach a good disclosure, however, it is necessary to conduct a thorough investigation on the main concepts here included: from this point of view, this is a research project that aims to contribute to the clarification of some complex notions.

Articulation of the project:

a) First of all, we will try to outline the background of the contemporary debate on femininity. Very briefly, we will introduce the conceptions which have exercised the greatest influence in the recent years (in the postmodern era, and beyond). However, it will be offered immediately a recognizable interpretative prospective, as we are going to present the psychoanalysis (from Freud to Lacan) in a non-simplified way. As far as concerned the theories of desire within the so called "French Theory", we will try to grasp the main points in Deleuze and Foucault's reflections.

b) Then, we will introduce a brief summary of the contemporary feminist debate, paying particular attention to the nomadic subject of Rosy Braidotti, the cyborg of Donna Haraway, the drug of Judith Butler, the eccentric subject of Teresa de Lauretis. The rejection of a monolithic subjectivity seems to be the point which unifies all these different positions: in short, the rejection of the essentialism in favor of the stress on a mobile and multiple idea of femininity that is irreducible to One.

c) Although it signs up in the great horizon inaugurated by psychoanalysis, the feminist debate has consistently criticized the Freudian and Lacanian view; but if the criticism against Freud could be largely justified, the one addressed against Lacan is not acceptable, because his position probably has never been adequately understood. It is fundamental, therefore, to present the richness involved in Lacan's perspective, starting from the argument according to which the woman is "not-all".

This perspective allows us to overcome the too rigid alternative between essentialism and constructivism.

d) We will also try to indicate the importance of a theoretical reflection in relation to the discussions that are currently taking place not only in Italy but in all Western Countries, on issues about sexuality, family, couple relationships, etc...

**Department of Engineering and Applied Sciences**

Tutor: **Prof. Massimo Manghisoni**

**Description**

The project aims at developing advanced imaging instrumentation, by using microsensors and 3D electronics, for applications at synchrotron light facilities.

Investigating the extremely small, the extraordinarily fast phenomena taking place at the nanometer scale and the complex structure of organic and inorganic materials is one of the main trends of modern scientific and technological research. Nanotechnologies are based on the ability to perform measurements and manipulate objects at a molecular scale. At such dimensions, the time scale of the dynamic processes is defined by the femtosecond vibration of an atom in a chemical bond. Understanding of the states of matter and its organization is of crucial importance for the development of advanced materials with innovative functionalities. Synchrotron light facilities are bound to become the predominant tool for the investigation of natural phenomena in this research framework. The resulting light, enables access to advanced research capabilities and techniques and conduct state-of-the-art experiments in physics, chemistry, biology, life sciences, environmental science, medicine, and cultural heritage. The minimum wavelength, of the order of one Angstrom, and the intensity of the X-rays made available in synchrotron light systems make it possible to see objects with nanometer feature size.

A number of research centers, in Europe, the United States and Japan, have started studying, designing and building international and multidisciplinary facilities for synchrotron light generation and material science applications. Some of these facilities are:

- SOLEIL Synchrotron, Saint-Aubin, France;
- Advanced Photon Source (APS), Argonne, USA;
- Advanced Light Source (ALS), Berkeley, USA;
- Elettra Sincrotrone, Trieste, Italy.

To take advantage of the potential of synchrotron light facilities, electronic instrumentation is needed that be compliant with the X-ray beam properties (which may vary from one facility to the other, or from one beam line to the other within the same facility) and with the experiment specifications. Electronic instrumentation consists mainly of two-dimensional pixelated X-ray imagers. The electronics have to satisfy severe requirements in terms of space and amplitude resolution, frame rate, input dynamic range and frame storage capability.

The proposed project includes a research program divided into the stages listed below

**1. Study of innovative solutions in the design of basic detecting blocks**

In the first phase of the project, innovative solutions in the design of basic detecting blocks will be considered. Such blocks are four side buttable modules, comprised of sensor and readout chip, in order to achieve a detector with negligible dead area. To this purpose, “active edge” sensors represents an innovative solution that, combined with vertical integration (3D) techniques, can be successfully used for the fabrication of a four-side buttable chip. (1 month)

**2. Design of blocks for analog signal conditioning**

The subsequent phase of the project will be concerned with the design of microelectronic building blocks and readout architectures capable of making possible the design of advanced and versatile detection systems for imaging in synchrotron light applications. The circuits will be integrated in a prototype chips designed in a 65 nm CMOS technology. (5 months)

**3. Test bench assembly**

The time interval commonly required for the chip production will be used for the assembly of the test bench (PCB, instrumentation and control interface) to be used for the characterization of the block designed in phase 2. (3 months)

**4. Test of the pixel readout system**

In the last phase of project the developed circuits will be tested and the different architectures will be compared in order to find the best solution to be used in synchrotron light application. If feasible, also 3D integration will be pursued on the basis of the information acquired in the first phase of the project. (3 months)

<p style="text-align: center;"><b>Research program:</b> <b><i>“Emergency powers and constitutional change in times of crisis”</i></b></p>
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**Annex Code 10**

**Department of Law**

Tutor: **Prof. Persio Tincani**

**Description**

The problem of how constitutions should be adapted to socio-economic transformations processes has always been a key-debate in politics, law and economics (see, C. Sunstein, Lochner's Legacy, 1987; B. Ackerman, We the People, vol. II, Transformations, 1998).

From the constitutions octroyée in 1848 to the approval of the XIII and XIV amendments after American Civil War, from the February 28th 1933's decree that ended the Weimar Republic to Eastern European countries constitutional process following the fall of the Communist Block, history is full of examples in which the (fully or partial) process of rewriting the constitution occurs in critical time for the process of state transformation.

The study of emergency measures in constitutional states focuses on the risks related to the suspension of fundamental rights and on the effects on separation and balance of power in times of armed conflicts, civil war or, recently, terrorism. The attempt of the French President to amend the constitution after the attacks of November 2015 in Paris should be read in the broader context of the transformations of many western countries that are reshaping the limits of executive branches' power, in order to manage internal and international challenges.

Nevertheless, the analysis of contemporary uses of the notion of “emergency” can not be considered adequate without taking into account new areas of application of the concept: from migration to environmental disaster, until 2008 global economic crisis that inspires the rewriting of Iceland constitution and the introduction of the “Balanced Budget Amendment” in Spain (2011) and in Italy (2012) with an extremely large parliamentary majority after strong pressure from the European Central Bank and from the International Monetary Found.

The project aims to study the relation between emergency and constitutional transformation (P. Mindus, Nostalgia per Cincinnato? Elementi per una fenomenologia dell'emergenza, 2007) starting from new political, social, economical, environmental and cultural scenarios and from recent cases of constitutional amendment process in Europe.

The first part of the project (months 1 to 4) will be devoted to analyse the complex notion of emergency by adopting the method consolidated in the empirical-analytical tradition in political and juridical theory; the linguistic, conceptual and historical analysis of the notion of emergency – and “urgency”, “exception” and “necessity” as his possible dimensions – will be helpful in the elaboration of a theoretical frame in order to address the concrete mechanism of both formal and material constitutional transformation.

The second part of the project (months 5 to 8) will be devoted to the study of recent constitutional transformation process in Europe, such as Hungarian reform of 2011, the new constitution of Iceland, the amendment process introducing the Balanced Budget in Italy and Spain, the rejected project of constitutional reform in France and the recent Italian deep reform. The analysis will focus on the concrete mechanism of transformation in order to shed light on the relation between the writing of fundamental norms and power legitimacy.

The third part of the project (months 9 to 12) will be devoted to the dissemination of the results by organising a cycle of open seminars on emergency and constitution and by submitting a project of multidisciplinary special issue on the same topic to a scientific journal.

**Research program:**

***“Observatory on resilience. The complementary roles of the company, technological innovation in electrical engineering and the third sector, with social inclusion, which guarantees sustainable development, environmental protection and health.”***

**Annex Code 11**

**Department of Law**

Tutor: **Prof. Angelo Maestroni**

**Description**

A study intended to explore the feasibility of an interdepartmental observatory on the right to health, healthy environment, clean and sustainable energy to encourage citizens, businesses and public administration to adopt and promote decisions that respect the European and international commitments on climate change, reduction of inequality and social inclusion.

A web platform and an especially designed database will be the sharing platforms of the freshly acquired knowledge both for internal and external to the university.

The most recent regulatory bodies (green act) recommend the adoption of Smart Technologies aimed at making the production but also consumption and lifestyles efficient and sustainable. The third sector is also increasingly more prone to the construction of models aimed to make sustainable and ethical values penetrate both socially and institutionally.

These are key factors for achieving the objectives of resilience of society which constitute the only possible response to the challenge of climate change, reduction of ecosystem resources, improving human life expectancy and the consequent fragility, need of health care and the demographic problem, in addition to the gradual reduction of the responsiveness of the national welfare system.

The project is aimed to identify and develop all the scientific, humanistic, and legal skills and experience that are now fragmented in different departments studying an integrated way of observation of topics of interest in a multidisciplinary and differentiated manner.

Health and environmental issues, technological innovation, energy and social inclusion must be dealt with together as they are inextricably linked.

It is not by chance that environmental law was born formally in our country as subjective absolute public right: the right of the individual and the group to a healthy environment and, according to the most modern concepts, inclusive and sustainable from an energy point of view.

In terms of health and environment-energy issue is quite significant if we consider the production of a very different legislation in the EU and in the individual regions. This diversity, including the objectives for 2020 and the reform of the Constitution, although subjected to confirmation, would not be immune from a rebound effect.

In the light of such fluid legislation the observatory wants to intercept the needs of society and transform them into positive input for the decision makers and stake holders.

The observatory conceived as a place for exchange and discussion of knowledge and experience, would have the task of monitoring the proper production, transposition and implementation of the rules relating to these fundamental rights, individual and collective, on which they depend, more than ever, social national and international relations.

**Research program:**

***“Analysis of the mechanical behavior of systems, machines, components and materials with high strength-to-mass ratio”***

***Annex Code 12***

**GITT - Centre on Innovation Management and Technology Transfer**

**Tutor: Prof. Sergio Baragetti**

**Description**

Machine design and computational mechanics of high strength to weight ratio components and systems under the guidance of prof. Sergio Baragetti, SSD ING-IND/14. Tensile and fatigue strength, contact fatigue, stress corrosion cracking and corrosion fatigue will be analyzed. The acquired knowledge will be used to design structural components of machines and systems, with particular reference to the structural and functional mechanical design activities of the company NOVA Ltd. which is committed to co-finance the project. Synergy between the theoretical-mathematical models, the finite elements numerical methods, and the development of experimental tests. Experimental activities will involve tensile and fatigue tests on materials with high strength-to-mass ratio, with adequate treatments, in air and corrosive environments. Full-scale testing will be performed on mechanical components. The stress-strain state will be obtained from electrical SG analysis, and compared with theoretical and numerical results. Concerning the experimental activity related to the fatigue behavior in air and corrosive environments, adequate algorithms for crack propagation will be developed, based on fracture mechanics and finite element models of components and materials.