

**PUBLIC SELECTION BASED ON QUALIFICATIONS AND INTERVIEW FOR THE AWARDING OF NO. 7 EXPERIENCED GRANTS FOR CONDUCTING RESEARCH PURSUANT TO ART. 22 OF LAW NO. 240/2010 AT THE DEPARTMENTS/CENTERS OF UNIVERSITY OF BERGAMO
PICA CODE 20AR021**

announced with decree of the Chancellor Rep. no. 342/2020 of 22.07.2020 and posted on the official registry of the University on 30.07.2020

RESEARCH PROJECT - CODE N. 1

“Lifelong learning, corporate welfare and workers’ well-being in a changing society”

Research structure: Department of Human and social sciences

Duration of the grant: 12 months

Scientific Area: 11 - History, philosophy, pedagogy and psychology

Academic recruitment field: 11/D1 – Educational theories and history of educational theories

Academic discipline: M-PED/01 – Pedagogy, theories of education and social education

Scientific Director: Prof. Andrea Potestio

Aim of the project is to investigate which conditions allow the development of workers’ well-being through lifelong learning opportunities structurally integrated into their career paths. Corporate welfare may play an important role in this sense. In Lombardy virtuous initiatives already exist. This research will map actions taken by companies of all sizes in the provinces of Bergamo, Milan and Brescia, in order to check their contents, methods, level of implementation, diffusion etc. and find out best practices as well. Lifelong learning is a key element to ensure workers’ physical and psychological well-being and satisfaction, but also companies’ success, which must be founded on skills, engagement, critical and creative thinking of the staff. The results of this research will be conveyed through the Innovation Hub & Living Lab project, whose purpose is to assist citizens maintaining an active lifestyle in a changing social and urban environment.

RESEARCH PROJECT – CODE N. 2

“Motivational mechanics and tailored behavioural change intervention”

Research structure: Department of Human and social sciences

Duration of the grant: 12 months

Scientific Area: 11 - History, philosophy, pedagogy and psychology

Academic recruitment field: 11/E1 – General psychology, psychobiology and psychometrics

Academic discipline: M-PSI/01 – General psychology

Scientific Director: Prof. Andrea Greco

The objective of the project will be to develop, evaluate and monitor specific intervention techniques, conveyed through Digital Health devices, aimed at improving the level of motivation, activation, and engagement of people for behavioral change and the promotion of healthy lifestyles (in particular nutrition and physical activity). The evaluation of motivation, activation, and engagement allows to classify and stratify participants based on their phase of behavioral change, as reported in literature. Therefore, appropriate assessment techniques will be prepared to assess and quantitatively monitor the evolution of the variables under investigation. A further objective will be to tailor the intervention on participants' characteristics to improve its efficacy.

RESEARCH PROJECT - CODE N. 3

“Public administration facing the challenge of new technologies: the administrative activity between the enhancement of knowledge and skills, in relationship with the society”

Research structure: Centre Cisalpino institute for comparative studies in Europe (CCSE)

Duration of the grant: 24 months

Scientific Area: 12 – Law studies

Academic recruitment field: 12/D1 – Administrative law

Academic discipline: IUS/10 – Administrative law

Scientific Director: Prof. Gabriella Crepaldi

The research fellow's activity is part of the Max Planck Project, entitled "Material culture, science and technology", with specific reference to the IUS/10 sector, therefore in relation to the specific part of the project where it is specified that: "Our societies and forms of life are dominated by technology, but they are not determined only by material culture. The distinction between structure and ideological superstructure does not represent the complexity of the situation, as scientific culture comes into play, design and direct level, in the real economy of our societies. This inseparable link between material culture, technique and scientific culture must therefore be studied not only from the perspective of the history of science or epistemology, but also in its anthropological, sociological, legal, economic, engineering, industrial, academic, as well as ethical-philosophical, psychological, and educational aspects". In particular, the research focuses on point I of the project: "how material culture changes in the computer age"; where, especially, it is specified that "in this context the question of Open access to sources for the realization of shared knowledge acquires particular and sensitive democratic relevance". In this sense, we intend to assign the research fellow the task of investigating the issue of the new needs of the public administration, especially with a view to digitization, in terms of innovation of the administration, as well as cooperation between administration and private entities. The research field described therefore involves numerous aspects of the public sector and administrative activity. With this in mind, it is possible to carry out a detailed analysis of one or several interconnected aspects, including, by way of example: - principles of efficiency, effectiveness, but also simplification and good performance, also "technical/technological", of the administration and protection of the public interest; open data and p.a., sharing of information and data, problems between access, transparency, new technologies and confidentiality/protection of the rights of individuals; expertise within the independent authorities and in general in the p.a., technological innovation, deficiency and request for specific professionalism in the p.a.; innovation in the field of public contracts, also with a view to the public-private partnership, therefore analysis of the tools, skills and knowledge of the private individual to support the activity of the public administration; innovation in the public services sector, also with reference to smart cities and environmental protection. The research must also, necessarily and hopefully, open up to a comparative approach: the research fellow will therefore have to verify, in detail, how the advent of new technologies in the public sphere has been accepted in other countries and in Europe. The research, in practice, can then develop according to an interdisciplinary approach, given the nature of the knowledge that the administration uses, therefore, considering the necessary synergy between scientific sectors

RESEARCH PROJECT - CODE N. 4

“Development of sensor-based IoT systems for the collection of environmental, biomedical and structural data in smart buildings”

Research structure: Department of Engineering and applied sciences

Duration of the grant: 12 months

Scientific Area: 09 – Industrial and information engineering

Academic recruitment field: 09/E3 – Electronics

Academic discipline: ING-INF/01 – Electronic engineering

Scientific Director: Prof. Valerio Re

The research program involves the development of sensor platforms to be integrated into intelligent buildings for structural and energy monitoring, and wearable sensors for continuous monitoring of the physical activity and physiological parameters of people inside the building. In addition to the development and testing of hardware platforms based on sensors, microcontrollers and radio systems for the remote transmission of the collected data, the project includes the development of algorithms for the detection of signals from sensors and for the extraction and quantitative measurement of relevant parameters such as the vibrations and displacement of the building, the level of physical activity of people inside the building, and physiological parameters indicative of their health conditions such as the heart rate.

RESEARCH PROJECT – CODE N. 5

“German as a language of science at the turn of the 19th and 20th centuries. Critical approaches and translation practices”

Research structure: Department of Foreign languages, literatures and cultures

Duration of the grant: 12 months

Scientific Area: 10 - Antiquities, philology, literary studies, art history

Academic recruitment field: 10/M1 – Germanic languages, literatures and cultures

Academic discipline: L-LIN/14 – Language and translation – German

Scientific Director: Prof.ssa Dorothee Heller

1) Objective

The main objective of the project is to give evidence of characteristic features of German in the period between the 18th and the first half of the 20th century, a period in which German-speaking scholars made an important contribution to the enrichment of scientific thought, thanks also to their in-depth knowledge of other languages into which they read and from which they translated.

The project will take into consideration various texts belong to this period in which the German language had reached an advanced state in its “Ausbau” as “Wissenschaftssprache”. Particular attention will be paid to lexical and morphosyntactic resources as well as to issues of semantics, stylistic conventions and argumentative strategies related to the eristic dimension that characterizes the scientific dialogue in the modern age and that becomes central in the discussion of topics which become highly important for the evolution of the disciplines themselves. In this regard, it is also intended to make comparisons with Italian through the analysis of selected parts of the texts under examination.

2) Theoretical framework

The research belongs to the studies on scientific language and in particular to the field of “Wissenschaftssprachkomparatistik” which in recent years got important input, in the German-speaking area, from research projects conducted in the context of Functional Pragmatics (Ehlich 2012, Redder 2014, Thielmann 2009). Among these studies we highlight those on the transdisciplinary dimension of the so-called “Alltägliche Wissenschaftssprache” (Ehlich 1999) as well as on the linguistic expression of critical thinking and knowledge construction (Da Silva 2014, Redder/Heller/Thielmann 2014). Other areas of research relevant to the project include studies on argumentation (e.g. Roncoroni 2015), textual conventions and verbal morphology (Heller 2012), translation and translation criticism (Atayan 2010, Schreiber 2012), historical semantics (Fritz 2006, Gardt 2002) and studies on the concept of the lexical field, initiated by Jost Trier (1931).

3) Research project description

The investigation will start from the analysis of selected scientific texts written at the turn of the nineteenth and twentieth centuries concerning the reception of the figure of Galileo Galilei, rediscovered and translated at that time in the German-speaking area.

The project will proceed in the following order:

- First of all, the commentary on the translation of the Dialogo sopra i due massimi sistemi del mondo (1632) by Emil Strauß (1891) will be translated and analysed. Strauß’ comment is still considered fundamental by Galileo’s scholars even in the Italian-speaking world. Among the questions to be examined in depth is the use of the verbal component and semantically vague or ambivalent terms in the source text and their rendering through more defined expressions in the target language. The investigation will also consider which argumentative strategies the translator uses in his commentary on the Galilean text.

- The analysis will also involve parts of the works of Emil Wohlwill, Galilei und sein Kampf für die copernicanische Lehre (1909) and Leonardo Olschki, Galilei und seine Zeit (1927). Both devote some attention to Dialogue, but while Wohlwill quotes and translates directly some passages, Olschki quotes them from Strauß’ translation, sometimes expressing reservations or making other lexical considerations. Through a selective comparison between Strauß’ translation and some passages taken from Wohlwill’s study, the different translation solutions proposed by the two scholars and their use of the resources of scientific German, now widely diversified, will be highlighted.

Key-words: comparative linguistics (German/Italian), academic and scientific German, theory and practice of translation, translation of scientific texts;

4) Time

- Bibliographic survey (1 month)
- Data collection from analysis of texts and their translations (4 months)
- Evaluation and interpretation of data within the framework outlined above (4 months)
- Presentation of results at conferences and publications in specialist journals and/or volumes (3 months)

5) Expected results

The contributions made by Strauß, Wohlwill and Olschki have recalled attention to the work of Galileo Galilei by highlighting the revolutionary character of his discoveries, focusing on both their value and some errors, as well as enunciating issues relating to censorship and counter-reformation.

In several respects the topic faced in the project are largely unexplored. In the field of research on scientific German, the texts under analysis, as well as the period between the 18th and the first half of the 20th century in general, have so far not received much attention. The project will highlight their complexity and specially it will provide insights into the expressive potential of German also in relation to the eristic dimension of the scientific dialogue.

Providing a translation of Strauß' commentary is of undoubted interest for Galilean studies in Italy. It will give value to the commitment of a relatively unknown scholar who worked in the shadow of the great man of science, making an important contribution to the diffusion of his thought.

The comparison of the translations of the Galilean Dialogue and Strauss' commentary will highlight the challenges for cross-language transposition of scientific texts. It is supposed that the analysis will help to define more precisely how the national languages, understood as languages of culture, become a vehicle for the dissemination of scientific knowledge and for understanding the complexity of which they are an expression.

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RESEARCH PROJECT – CODE N. 6

“Financial markets in the south of the world: what future and what role in the light of the climate risk and disaster risk?”

Research structure: Centre for Socio-Economic Dynamics and Cooperation (CESC)

Duration of the grant: 12 months

Scientific Area: 13 - Economics and statistics

Academic recruitment field: 13/B4 – Financial markets, financial institutions, and corporate finance

Academic discipline: SECS-P/11 – Financial markets and institutions

Scientific Director: Prof.ssa Laura Viganò

The research aim is to study the status of financial systems in the Countries of the South of the World, in order to understand their role in economic growth and in improving life conditions, starting from Africa and then extending the analysis to international comparisons. Recent, rapid evolutions and revolutions in the international financial world, due to both issues related to markets and intermediaries' stability and to the underlying profound modifications in productive processes and in enterprises localization, make it interesting to explore how the role of financial intermediaries changes in countries which, on one side, increasingly represent potential targets of productive investments and, on the other side, are certainly important output markets. Furthermore, financial systems are more and more considered as potential promoters of economic growth of marginal layers of the population. Microfinance, often innate in poor areas, has been institutionalized and embedded in financial systems as an important component of this process.

Local financial systems, once often structured based on schemes inherited from the former colonizing countries, were initially aimed at fostering sectors involved in international trade or other sectors considered as strategic by local governments and subsidized also through banking systems (Viganò, 1996). Over time, these systems have been largely privatized and, differently from the past, more focussed also on rural areas, often in collaboration with microfinance intermediaries. This transformation, while not uniform, has generally characterized several countries. The outcomes are differentiated depending on the contexts and geographical, political, historical and systemic situations. The systems' overall performance, as well as the individual intermediaries' ones, are variable but, in recent years, a strongly growing trend emerges, with performances which are much higher than those of more developed economies. The challenges that operating in Africa entails, in fact, also represent an opportunity. Among these challenges, the strong demographic dynamics which leads to an estimate of a double number of inhabitants by 2050 (UN, 2019) makes it imagine a potential development of financial systems in a continent which currently shows a penetration rate of about one half of the one of other emerging markets. Large growth potentials, however, coupled with greater obstacles on the logistics side and with reference to customer relationships. Current high operating costs in African banks are a consequence of situations which can be faced with leaner banking models, also through technological and digital innovation (McKinsey, 2018). In this picture, a crucial role in financial systems consolidation is represented by risk management, still generally weak with reference to credit risk but also referred to other types of bank risks. Besides typical risks of financial intermediation, other risk still affect several countries in the continent, like the political instability, and those related to climate and catastrophic events. In Africa, in 2018, 53 catastrophic events caused 2488 victims (SwissRe, 2019). In this perspective, not only it is interesting to understand how the financial system positions itself and manage its own risk exposure but also what financial products, bank and insurance ones, it offers to the overall population, with a special focus on marginal segments which further suffer the consequences of these events, as less equipped to face them.

The described evolution characterizes most of African countries but can be transposed to other countries of the South of the World. The study, in fact, aims at making comparisons with countries of different geographical areas which help interpreting the observed phenomena. The study is complementary to other researches of the FinDev-CESC group. In the past, the group researchers have intensively worked on banking systems, including the rural ones, and, in more recent years they have concentrated on microfinance, mostly based on field research. This project plans to be based mostly on publicly available information. For example it aims at investigating the trends in assets and liabilities of financial intermediaries, the effects of these settings on performances and the contribution to economic development. The final outcome would be an analysis of the most successful factors in

fostering this process. Among them, a focus will concern systemic risks, of political or climatic nature, natural or man-made disasters, can influence growth processes. At the same time, the effects of these systemic risks on financial systems will be studied with an interest for the strategies implemented by intermediaries to face these situations. Specific research questions will emerge after a preliminary study on available information and data. We expect that strategies of resilience to systemic risks will play a big role in the ability of systems to stabilize and contribute to development.

RESEARCH PROJECT - CODE N. 7

"Managing production sub-networks: an international study"

Research structure: Department of Management, information and production engineering

Duration of the grant: 24 months

Scientific Area: 09 – Industrial and information engineering

Academic recruitment field: 09/B3 – Business and management Engineering

Academic discipline: ING-IND/35 – Business and management Engineering

Scientific Director: Prof. Matteo Giacomo Maria Kalchschmidt

Multinational manufacturing companies produce different types of products using international production networks. These networks can have a vertical structure (production is divided according to the production process) or an horizontal structure (divided according to the market to be served). In addition, the diversity of products, for example, products with a high or low technological content, can be reflected in the way these networks are managed.

Compared to these different management methods, in 2016 Vereecke, Ferdows and De Meyer introduced the concept of sub-network, i. e. a grouping of production units characterized by a certain type of product/process. The result of this study shows how sub-networks that produce low-tech products are more subject to structural reviews (footloose sub-network).

Although the concept of sub-network may simplify the management activity of the entire network, the ways in which these sub-networks are managed have not yet been studied in depth.

The project therefore aims to study these sub-networks and the related management practices, such as the organisational structure, control and coordination mechanisms, the level of expertise required, operational integration practices and knowledge exchange.

Given the complexity and novelty of the theme, the research methodology chosen is that of case studies. In particular, a number of companies will be analysed at European level and the related foreign production plants within the sub-networks.

The project will therefore be divided into 3 phases for a total duration of 24 months.

Phase 1 - Systematic review of literature (4 months). In this phase, the most relevant articles will be collected for the identification of the different management variables of a sub-network. Where necessary, systematic literature review techniques will be applied, including a systematic search for articles, analysis of the citation network and main topics.

Phase 2 - Data collection (12 months). In this phase, the interview protocol will be defined and the companies to be contacted will be selected following the best methodological practices in the analysis of case studies. Firms will be interviewed in person or by telephone and all the information collected will be triangulated with information from secondary sources (reports, balance sheet data, presentations, etc.). If further data need to be collected, companies will be contacted for follow-up meetings.

Phase 3 - Analysis of results (10 months). The collected data will be coded in order to identify the differences and similarities between the cases and the different types of sub-network analysed. In this phase, best practices in the management of these networks will also be studied, with particular emphasis on the difference between footloose networks and other types of networks.

The project will also be supported by a dissemination phase of the duration of the entire project.

The aim is to produce at least 2 articles to be presented at the conference and then sent to international journals. A report will also be written for the participating companies. Finally, the results of the project will be disseminated through social networks and specialised websites.

All phases of this study will be conducted according to the principles of the highest scientific rigour to ensure results that advance the state of the art of knowledge.