



AYUDAS RAMÓN Y CAJAL CONVOCATORIA 2015

Turno de acceso general

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Título:

Theoretical and computational semantics: integrating conceptual and referential aspects of meaning

Resumen de la Memoria:

My primary research interest lies in understanding how meaning works in natural language. I work on lexical semantics (the meaning of words) and on semantic composition (how the meaning of words is combined to yield the meaning of phrases). I approach these topics from a computational and quantitative perspective, as I believe that this perspective fruitfully complements traditional, symbolic and qualitative approaches to semantics in Linguistics. I started out working in the semantic tradition known as formal semantics, which provides a rigorous approach to semantic composition by using tools from logic and set theory. This framework gives detailed information about logical or structural aspects of language, but, with few exceptions, it leaves the semantics of content words largely unexamined. Lexical semantics is pervasively affected by phenomena such as ambiguity and vagueness, which demand approaches that naturally encompass a notion of degree in their representations. First-order logic, using atomic symbols, struggles with these properties of natural languages.

For this reason, I have also embraced distributional semantics, an inductive approach to meaning currently very popular in Computational Linguistics and Cognitive Science. Distributional representations encode lexical meaning as a function of the contexts in which words occur, where the context for a word can be defined for instance as the set of words in the same sentence. Distributional representations encode very rich information in a graded manner. Accordingly, distributional models successfully account for many lexical semantic phenomena: For instance, they can replicate human behavior with regard to word similarity ("string" and "cord" are similar, "professor" and "cucumber" are not) or priming (humans respond faster to "doctor" if they have read "hospital" before). The reason distributional semantics is so successful is that its representations are induced from linguistic data naturally produced by humans, such as collections of text drawn from the internet and other sources. Two recent advances in the field, in which I have been directly involved, are the following: (1) Compositional distributional semantics, seeking to combine the meaning representations of words into semantic representations for phrases or even sentences; and (2) the introduction of perceptual information, in particular visual information extracted from images. Here, recent advances in computer vision allow us to use visual features as contexts, providing better, perceptually grounded representations for words.

Distributional semantics has been very successful in practical applications; for example, its basic principle lies at the heart of Information Retrieval engines. However, there is reason to think that distributional semantics is not only a useful engineering device, but that it also has deeper philosophical implications for the study of meaning; in fact, its "meaning as use" approach has a clear antecedent in Wittgenstein's Philosophical Investigations. Formal semantics, in turn, is based on a realist framework. Given that the theoretical positions and the relative strengths of these two approaches are complementary, my specific goal is to integrate distributional and formal approaches to semantics into an overarching semantic theory encompassing lexical and structural aspects of meaning.

Resumen del Currículum Vitae:

My academic and research life has been spent at ten different institutions in Europe (Spain, Italy, and Germany) and the US. In Spain, concretely in Barcelona, I studied Spanish Philology in the Universidad Autónoma de Barcelona (2000), shortly worked in the IIIA-CSIC Institute for Artificial Intelligence, completed my PhD in the Cognitive Science and Language Program of the Universidad Pompeu Fabra (2007), and worked as a pre-doctoral researcher in Barcelona Media and as a post-doctoral researcher in the universities Politècnica de Catalunya (2008-2010) and Pompeu Fabra (2011-2012, 2014-2015). In Germany, I studied Computational Linguistics in the University of Cologne, visited the Saarland University as a pre-doctoral researcher, and the Stuttgart University as a post-doctoral researcher. In the US, I worked as a post-doctoral researcher and lecturer in the Department of Linguistics of the University of Texas at Austin (2012-2014). I currently work as a post-doctoral researcher in the CIMeC center of the University of Trento (Italy).

Throughout my career, I have shown independence in my research as well as strong leadership, team work, and coordinating skills, for instance by acting as the PI of a Marie Curie grant, collaborating with a broad variety of researchers in different disciplines, mentoring students (including one ongoing PhD thesis), and co-organizing three international workshops. I have been invited to participate in 17 research projects at the regional, national, European, and international levels, including one European Network of Excellence and one project funded by DARPA (US). I have also proven my ability to obtain competitive funding myself, most prominently with the Marie Curie grant and a post-doctoral contract in the Juan de la Cierva programme.

My research has a clear impact, with 582 citations, an h-index of 12, and 16 articles in the top venues in Computational Linguistics



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according to Google Scholar, as well as four articles in journals indexed in the ISI Web of Knowledge (including PLoS ONE, a first-quartile general science journal). In 2015-2016, I will give four invited talks in international workshops.

The international community recognizes me as an established researcher in the field, trusting me for instance to act as co-editor for a special issue in a top journal (Computational Linguistics) and to be on the Editorial Board of the Linguistic Issues in Language Technology journal, associated with the Linguistic Society of America. I am regularly asked to carry out other high-responsibility scientific evaluation tasks, such as reviewing for the most important journals in the field (Computational Linguistics, Artificial Intelligence, Natural Language Engineering, among others), evaluating projects for research agencies (e.g. of Argentina and Poland), and taking on prominent roles in the organization of international scientific events (for instance, I am currently serving as area co-chair of the 2016 edition of the top conference in the field, ACL).



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Título:

Islamic Intellectual History and its Textual Heritage

Resumen de la Memoria:

I am a scholar of Islamic intellectual history, who has made significant contributions to the study, reconstruction and critical edition of the textual heritage in the field. My main field of expertise is the pre-modern discipline of discursive theology and adjacent intellectual endeavours. I have made major contributions to the following fields:

1) Muṭazilite studies:

My research in this field mainly dealt with so far understudied developments of the later Muṭazila. I have specifically focused on the transmission of the school's doctrines to the Zaydi community in Yemen from the 12th century onwards. My research was primarily conducted on the basis of yet unexplored manuscript material preserved in both Yemeni and European libraries. In addition, I have also studied and published on the Jewish reception of Muṭazilism, and I worked in this context with a relatively neglected type of source, namely medieval Jewish manuscripts from the Cairo Geniza.

2) Ashʿarite studies: Ashʿarism was the most important theological school in Sunni Islam and its influence can still be felt in modern thought. Despite its relevance for understanding the Islamic intellectual history, the field remains in many respects completely understudied. My research on the Ashʿarite school addresses two major desiderata and has received funding through 2 Marie Curie Fellowships. The first project, 'Abu Bakr al-Baqillani (d. 403/1013) and the scholastic consolidation of Ashʿarism' focuses on a towering figure of the Ashʿarite school. Despite al-Baqillani's central importance for the development of the Ashʿariyya school and Muslim intellectual history in general, his thought has as yet not been systematically studied. The project therefore fills a gap in the study of Muslim theological thought by making extensive use of the recently discovered manuscripts of the author's magnum opus, Hidayat al-mustarshidin. The second project, 'Travelling knowledge in medieval Islam: The Ashʿarites of al-Andalus and North Africa' focuses on the much neglected transmission of Ashʿarism and its literature to the western Mediterranean.

3) Digital humanities: I am engaged in various aspects of digital humanities work, including the digitization of endangered manuscripts, computational tools for critical text editions and new approaches in intellectual history through combining textual analysis with tools developed for social network analysis and GIS technologies.

Resumen del Currículum Vitae:

I received my Ph.D. (2012) from Freie Universität Berlin with the highest grade (summa cum laude).

I have a strong international profile with postdoctoral research experience at three leading institutions: FU Berlin, SOAS (University of London), and CSIC, Madrid.

Research Projects:

I was awarded two Marie Curie projects funded within the European Union's FP7:

- Currently, I am a Marie Curie IEF at the Centro de Ciencias Humanas y Sociales, CSIC, Madrid (2015-2017); my proposal was rated 97/100 points

- Previously, I received a Marie Curie Fellowship in the COFUND modality (Gerda Henkel M4HUMAN programme) for a position at SOAS, University of London (2013-2015)

I was furthermore involved in two ERC projects funded within the FP7 as:

- a five months visiting scholar within an ERC Advanced Grant Project at CCHS-CSIC (Madrid); PI: Maribel Fierro

- researcher in an ERC Advanced Grant Project at Freie Universität Berlin; PI: Sabine Schmidtke (2009-2013).

Additional participation in international and national research projects with such participating institutions as: Tel Aviv University; CCHS-CSIC; Casa de Velázquez, Madrid; Freie Universität Berlin; Princeton University; University of Oregon; University of Cologne.

Awards

2 Marie Curie grants; 1 predoctoral (2008-2011) and 1 postdoctoral fellowship (2013-2014; declined) funded by the German Research Council (DFG) within the framework of the German Excellence Initiative; travel grants from the Marie Curie Alumni Association (2014) and the German Academic Exchange Service (DAAD; 2008); winner of the Research Prize 2013 of the Annemarie Schimmel Foundation (Bonn).

Scientific production:



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Excellent record of international publications in English, German and French; major publications:

- 4 books, 2 of which published as single author with Brill (Leiden)
- peer reviewed articles in such high-ranked journals as Arabica, Arabic Sciences and Philosophy, Der Islam and others.
- book chapters in collective volumes published by internationally leading publishers in the field such as Oxford University Press, Brill, Peeters (Leuven)
- several contributions to the third edition of the Encyclopaedia of Islam, which is considered to be the standard reference work in the field of Islamic studies
- numerous lectures and papers at such institutions as the Institute for Advanced Studies, Princeton; Leiden University; CSIC; Casa de Velázquez, Madrid; SOAS, University of London; the British Association for Islamic Studies (BRAIS), Edinburgh; Göttingen University; Berlin-Brandenburg Academy of Sciences; Qatar Faculty of Islamic Studies, Doha; Swedish Research Institute and German Orient Institute, Istanbul; The Institute for Advanced Study, Jerusalem.

Additional qualifications:

- Experienced organiser of R&D activities in London, Istanbul and Berlin
- Member in the Editorial Boards of two scientific journals
- teaching activities at the Institute for Advanced Studies, Princeton; Universidad Autónoma de Madrid; Universidad Nacional de Educación a Distancia; Freie Universität Berlin
- Outreach activities directed towards a non-academic audience



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Título:

From the origin of Earth to ethics: Kant and the sciences of his time.

Resumen de la Memoria:

As PhD student in Philosophy at the University of Rome ◆La Sapienza◆ I worked on the epistemological questions emerging from Kant◆s philosophy of nature in the critical period. In analyzing Kant◆s scientific texts, I identified a number of scientists that influenced his view of physics and cosmology. As post-doc, I focused on the figure of W. Herschel that played a crucial role in informing Kant◆s view of cosmology in the critical period. These results were published in two books ◆The Harmony of the Sphere◆ (2013) and ◆La Fenice della natura. scritti di geofisica e astronomia◆ (2016). I authored and co-authored 17 entries for the Kant-Lexikon and a number of articles in peer-review journals, such as Synthese, Studies in History and Philosophy of Science and Logic Journal of the IGPL. Furthermore, in 2009 I started studying physics and collaborating with a number of scientists, thereby acquiring a novel perspective on both 18th-century experimental sciences and philosophical questions emerging from current scientific practices and theories. Thus, my research focused not only on Kant◆s philosophy, but also on 20th-century conceptions of space and time, the problem of the justification of the dimensionality of space, the epistemological question of objectivity in scientific theories and models, causality and explanation in the sciences. Most of these questions were discussed by Hermann Weyl in both his published and unpublished works. From 2012 onward the study of Weyl's philosophy of science occupied a privileged position in my investigation leading to edit a forthcoming special issue of Studies in History and Philosophy of Science Part B entitled ◆Hermann Weyl and the philosophy of the 'new physics'◆. My current research focuses on offering a new perspective on Kant◆s philosophy and the sciences of his time. I◆m currently editing a special issue on ◆Kant and the Sciences◆ for Studies in History and Philosophy of Science Part A, and working on a book that sheds light on Kant◆s apparent syncretism of Newtonian, Cartesian and Leibnizian aspects in his early metaphysics of nature. I suggest that this syncretism is rather due to the fact that Kant embraced Euler◆s programme on the foundations of natural sciences. Many elements of Euler◆s influence survive in Kant◆s critical writings, such as the Kritik der Urtheilskraft, in which the epistemology of empirical scientific research and its foundations (e.g. the existence of different types of causality, the foundations of algebra, the refinement of the concept of mathematical infinity depending on a theory of measurement) assume a profound meaning when connected to sciences, such as physical geography, thereby contributing to culture and to the ethico-teleology. By pursuing this research, thus, I also aim at giving a novel account of Kant◆s Rechtslehre on the ground of his scientific analysis of our planet and human ends to be realized therein. I am also working on a monograph on Hermann Weyl◆s philosophical reflections on natural sciences. Furthermore, I am writing a couple of articles on explanation and classification in astrophysics models, as well as a research project on the history and philosophy of cosmology for the next ERC Starting Grant call.

Resumen del Currículum Vitae:

I am currently Marie Curie Research Fellow at the CEHC of the Autonomous University of Barcelona (UAB) and Honorary Research Associate at University College London. I was awarded my PhD in Philosophy in 2010 at the University of Rome ◆La Sapienza◆ with the thesis ◆Epistemological questions of natural science in Kant◆s late work◆. I was awarded a number of competitive fellowships (DAAD, Fritz Thyssen Stiftung, Research in Paris 2013, Beatriu de Pinós) and worked in UK, Germany, Italy and France, in both universities (University College London, University of Ferrara, TU Dortmund, École Normale Supérieure) and research centers (ZetKIK and CEHC). I attracted International funding to organize a number of conferences in UK, Germany, France and Spain, as well as grants offered by The Chemical Heritage Foundation (Philadelphia, PA) and CERN to support my research. I have also been involved in research projects funded by various bodies including MIUR, MINECO, AGAUR and in 2014 awarded a Beatriu de Pinós fellowship under the EC-FP7 PEOPLE COFUND programme. In 2013, I published the first volume devoted to Kant and Herschel entitled ◆The Harmony of the Sphere◆ (Cambridge scholars Publishing) and edited and translated a collection of Kant◆s scientific works on geophysics and astronomy (◆La fenice della natura. Scritti di geofisica e astronomia, Mimesis Edizioni 2016). I authored and co-authored 17 entries for the Kant-Lexikon published by De Gruyter in 2015 and a number of articles in International peer-review journals (◆Cartesian Echoes in Kant◆s philosophy of nature◆, Studies in History and Philosophy of Science Part A (2013) with M. Massimi; ◆When series go in indefinitum, ad infinitum, in infinitum. Kant◆s concept of infinity in the antinomy of pure reason◆, Synthese (2015); ◆Explanation and the dimensionality of space◆, Synthese (2015), with J. Wells; ◆How far can we go with fuzzy logic? Perspectives on model-based reasoning and stochastic resonance in scientific models◆, Logic Journal of the IGPL (2013), with S. Gaudenzi; ◆Which Explanatory role for mathematics? Reply to ◆The Explanatory Dispensability of Idealizations◆◆, Synthese (2015)). I also co-authored scientific articles appeared in indexed journals Acta Polytechnica (2015) and in the Journal of radial analytical and nuclear chemistry (2013). I disseminated the results of my research in several congresses and conferences in Europe, US, South America and Australia and participated as invited speaker in prestigious seminars, such as the Sigma Club at the London School of Economics. I am currently teaching in a couple of courses in the Master in History of Science, and the History and Philosophy of Science course in the ◆grado en filosofía◆ at the UAB. I am official reviewer of Mathematical Reviews and acted as



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referee for the British Journal for the History of Philosophy, Studies in History and Philosophy of Modern Physics, the European Journal for the Philosophy of Science and TOPOI. I am a member of the UK Kant Society, Società Italiana di Studi Kantiani, British Society for the History of Philosophy, the British Society for the History of Science and the Societat Catalana d'Història de la Ciència i de la Tècnica. I am Italian native speaker and fluent in French, German, English, Japanese, and Spanish. I have also a good command of Catalan, and deep knowledge of Latin and classic Greek.



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Título:

Estudios transatlánticos de literatura: poesía y aforismo

Resumen de la Memoria:

Dentro de mi línea principal de investigación en Estudios Transatlánticos, dediqué una primera fase predoctoral de mi trabajo al análisis de la poesía contemporánea en español, con especial atención a la poesía argentina y española del último tercio del siglo XX. Mi inicio en la investigación, materializado en mi tesis doctoral, está marcado por un intento de analizar a través de la poesía la transformación de los discursos y el imaginario colectivo argentino tras la última dictadura. La metáfora integradora con la que denominé dicha realidad es el Carnaval Negro, que consistió en una escenificación poética de lo siniestro. Su mascarada evidencia los mecanismos de normalización de lo atroz que puso en funcionamiento la dictadura. El disfraz grotesco ilumina el terror institucional que se pretendió invisible. Así, el fingimiento y el disimulo que atraviesan los textos funcionan como una acentuación delatora de la negación y silenciamiento de la masacre. Yendo un poco más lejos, la mascarada cumple en los textos una segunda función: la ocultación de un cuerpo vacío o la protección de su conjeturada sacralidad. En esta primera fase de mi investigación, comencé además mi trabajo sobre la poesía española después de 1975. En primer lugar, estudié sus vínculos con el nuevo contrato social que conllevó el fin de la dictadura. Frente a la conceptualización del artista como ser excéntrico, ciertos intentos de normalizar el discurso poético pueden leerse como una voluntad de reconstruir los puentes que comunicaban poesía y ciudadanía, aspirando a una transformación de los discursos íntimos que tuviera implicaciones colectivas. A finales de los 90 pudo percibirse, sin embargo, una transformación: la seguridad ideológica y la rotundidad enunciativa fueron sustituidas por una progresiva ambigüedad, bajo el convencimiento de que, como señaló Marcuse, es dicha ambigüedad lo único que impide al arte ser una máquina de reproducción al servicio de la ideología dominante. En una segunda fase de mi investigación, me centré en el estudio del aforismo contemporáneo en español, profundizando en el cruce de poesía y pensamiento que acontece en su seno, tanto en España como en Hispanoamérica. Durante mi trabajo postdoctoral de dos años en París llevé a cabo, en primer lugar, un análisis de las peculiaridades del aforismo dentro de las formas breves, centrándome en el carácter transgenérico, disruptivo y fragmentario que caracteriza a la tendencia a la minificación de la literatura hispánica. En segundo lugar, estudié el aforismo como manifestación marginal del ensayo filosófico en español, investigando sus proyecciones actuales como una forma particular del pensamiento que ha sido desplazada dentro del canon por su extrañeza respecto a las sistematizaciones convencionales. En líneas generales mi investigación ha perseguido el análisis de las obras aforísticas más importantes de nuestra lengua (Antonio Porchia, Gómez Dávila, Juan Ramón Jiménez o José Bergamín) y el establecimiento de un panorama general del aforismo en español del siglo XX. Actualmente acabo de comenzar una investigación sobre editoriales independientes de poesía en España y Argentina durante la última década, retomando con ello un trabajo comparativo de carácter teórico sobre las proyecciones políticas de la poesía actual en ambos países, al que dedicaré en adelante mi labor investigadora.

Resumen del Currículum Vitae:

Soy doble licenciada en Filología Hispánica, y en Teoría de la Literatura y Literatura Comparada por la Universidad de Granada. En 2004, me fue concedida una beca predoctoral FPDJ con la cual obtuve en 2008 el título de Doctorado Europeo dentro del Programa de Estudios Superiores de Literatura Española con un Cum Laude por unanimidad. En 2010 recibí una Postdoctoral del Ministerio de Educación para investigar en una de las instituciones europeas más prestigiosas de su área: Université Paris-Sorbonne, donde trabajé entre 2010 y 2012. Mi carrera internacional ha estado vinculada, además, a Nueva York, Londres y Buenos Aires, en cuyas universidades he realizado cinco estancias de investigación. Mis estancias financiadas en centros extranjeros de prestigio suman un total de casi tres años entre 2004 y 2015. Mi actividad internacional se ha mantenido además de forma constante a través de la participación en eventos científicos celebrados en ciudades como Brasilia, Aberdeen, Tallinn, Venecia, Roma, Varsovia, Cracovia o Mar del Plata, más allá de París y Buenos Aires. De las 37 aportaciones realizadas a congresos, jornadas y seminarios, 19 se han celebrado en el extranjero y sólo 8 en la Universidad de Granada. Mi labor profesional, desarrollada en español, inglés y francés, es un reflejo de mi compromiso con la dimensión internacional de mi investigación. He formado parte de 6 proyectos I+D (uno de ellos financiado por la Universidad Autónoma de México y otro por la UE). Especialmente destacable es la dirección del Congreso Políticas de Literatura: un diálogo con Jacques Rancière (2014), que contó con la presencia del propio filósofo francés, así como del Congreso de Editoriales Independientes: Patrimonio y Mercado Editorial (2015), pionero en su propuesta a nivel internacional. Además, he dirigido tres Seminarios, sido Secretaria y formado parte del Comité de Organización de otros 6 congresos, 4 de ellos celebrados en el extranjero. Para todas estas actividades logré exitosamente financiación nacional e internacional pública y privada. En 2012 me fue concedida una Acción Complementaria dentro del Programa Nacional. Mi excelencia se ha materializado, además, en la gestión de dos programas de Posgrado, como Secretaria de un Curso de Expertos y como Miembro de la Comisión Académica de un Máster Oficial, donde he impartido una muy significativa parte de mi docencia y he dirigido trabajos de investigación (4 TFM). En 2013, publiqué un ensayo crítico titulado Entre bambalinas. Las poetisas argentinas tras la última dictadura, en la editorial Iberoamericana (puesto 4 del ranking SPI). Además, soy responsable de la edición de 13 libros, publicados en



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editoriales de máximo prestigio como De Gruyter, UNAM, Iberoamericana o Peter Lang. He publicado 19 artículos científicos, de los cuales 6 han salido en revistas indexadas en WOS/A&HCI y otros 7 en revistas académicas de máxima indexación como Anales de Literatura Hispanoamericana (SCOPUS, ERIH, MLA). He publicado 22 capítulos de libro en editoriales como Harmattan, Georg Olms Verlag, Iberoamericana, Peter Lang o ADEHL/Sorbonne. Actualmente trabajo con un contrato de investigación en la Universidad de Granada y con un contrato de docencia a tiempo parcial en la Universidad de Jaén. Estoy acreditada como Profesora Contratada Doctora por la ANECA.



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Título:

Using Information Structure, Discourse Structure and Paragraph Cues for Prosody Generation in Speech Synthesis Applications

Resumen de la Memoria:

My PhD thesis focused on the fusion of prosodic and acoustic information for speaker recognition and other biometric applications. My main contribution was to incorporate prosodic information and voice quality features contained in the human speech in order to improve the state-of-the-art systems based solely on acoustic and spectral features of the speech signal, and the analysis of speaker recognition robustness against voice imitation and conversion. Since then, my research line has been strongly focused on the incorporation linguistic knowledge in order to improve the performance of the traditional statistical systems. As a postdoc researcher, I used the experience acquired in the speaker recognition field to contribute in adding linguistic information into the state-of-the-art statistical machine translation systems, especially in the evaluation task.

Currently, I am working on the incorporation of linguistic information in the speech synthesis field by analysing the correlation between prosody and the following elements: information structure, discourse structure, and paragraph cues. The influence of the information structure on intonation is widely reported in literature. Some theories establish a main and recurrent correspondence between thematicity on the one side and intonation patterns on the other side. Similarly, several studies report evidence of the correlation between intonation and discourse structure, relating the importance of discourse markers in the realisation of speech discourse. Additionally, text-to-speech systems generally attempt to improve naturalness and expressiveness by increasing the prosodic variability. However, it appears that simply varying sentence prosody, without accounting for paragraph structure, does not necessarily improve naturalness. Instead, it seems that a more discourse structure aware approach, together with the information structure contained in the message, is needed to make real improvements in speech synthesis. Taking all these elements into account will allow us integrating additional linguistic information and improving the state-of-the-art text-to-speech systems.

Resumen del Currículum Vitae:

I graduated in Physics from the Universitat de Barcelona (1998) and in Linguistics from the same university (2003), and I received the degree of Doctor of Philosophy by the Universitat Politècnica de Catalunya (UPC, 2008), in Barcelona, in the Department of Signal Theory and Communications. I have held research positions at the German Centre for Artificial Intelligence (DFKI) in Saarbrücken (Germany), Umeå Universitet (Sweden), the National Centre for Biometric Studies at the University of Canberra (Australia), and the Centre for Speech Technology Research at the University of Edinburgh (United Kingdom). I also worked at the Research Group in Computational Linguistics at the Universitat de Barcelona, and I have held postdoc positions at the Universitat Politècnica de Catalunya, the Office of Learning Technologies from the Universitat Oberta de Catalunya, and the Universitat Pompeu Fabra, where I am currently a member of the Natural Language Processing group (TALN).

I have also participated in eight European and eight national projects (two of them in Sweden and Australia). All these research activities are reflected in the following publications: 11 articles in JCR indexed journals, 7 articles in other indexed journals, books and book chapters, and more than 30 conference papers. I have served as a reviewer of 7 scientific journals and 11 conferences, and I am an Associate Editor of the Journal of Biometrics since 2013. I have supervised two undergraduate thesis and two master thesis, and I am currently cosupervising four PhD students. Since 2014, I am also the coordinator of the Master in Intelligent Interactive Systems (MIIS) and member of the Postgraduate and Doctorate Academic Commission at the Department of Information and Communication Technologies at the Universitat Pompeu Fabra.

My teaching activities, started in 2006, include undergraduate, MA and PhD courses in the following subjects: Speech Processing, Modeling of Social Interaction 2.0, Linear Algebra and Discrete Mathematics, Computational Logic, Optical Engineering, Waves and Electromagnetism, Intelligent Computation and Natural Language, Technology and Society, Technoethics, Engineering and Social Responsibility, Speech and Language Technologies and Applications, and Natural Language Interaction, as well as The Role of Linguistics in Statistical Machine Translation at the 25th European Summer School in Logic, Language and Information (ESSLLI 2013).

I have obtained the following Quality Accreditations: Professor Lector (AQU, 2009), Profesor Ayudante Lector (ANECA, 2011), Profesor Contratado Doctor (ANECA, 2013), and Professor Agregat (AQU, 2014). Along my research career, I have been awarded with an FPU grant (2004-2008), a Juan de la Cierva contract (2014-2016), a José Castillejo (2014) and two other mobility grants (2005, 2007) by the Spanish Ministry, the best demo paper award at the Iberian SLTech 2009, and three National Awards from the Generalitat de Catalunya: Internet



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AYUDAS RAMÓN Y CAJAL CONVOCATORIA 2015

Turno de acceso general

(2004), Culture (2005) and Music (2006).



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Título:

An Organizational View of Organisms: Understanding and Explaining Organismal Identity, Agency, and Cognition

Resumen de la Memoria:

After my graduation with a degree in Electronic Engineering, and a MSc in Data Communication Systems, and had I been working for almost 5 years in the field of Computer Networks, I pursued a radically different research career defending a PhD on ♦Autonomous and Complex Systems Design♦ from the Department of Product and Systems Design Engineering, of the University of the Aegean, Greece. This has been an interdisciplinary doctoral specialization spanning primarily the fields of Philosophy of Science (with a strong emphasis on Philosophy of Biology, and Complex Systems Theory), Philosophy of Cognition, and Behavioral Sciences (with an emphasis on Embodied Cognition and Interaction, and Design Processes), and secondarily the fields of Artificial Intelligence and Theoretical Biology. In this stage, the main line of research was the suggestion of a systemic framework accounting for the emergence and role of meaning processes in living systems and in artificial environments, and the use of this framework for critically indicating drawbacks and suggesting possible solutions in the naturalistic modeling of biological, agential and higher-level cognitive processes, as well as in the design of contemporary artificial agents.

This line of research continued until I became a Marie Curie fellow at the Department of Logic and Philosophy of Science at the Univ of the Basque Country my project was entitled: ♦From Autonomous Biological Individuals to Collectively Associated Autonomous Adaptive Agents♦. Since then, my line of research is centred on the theoretical investigation and establishment of an organizational framework of biological organisms for, primarily, the naturalistic understanding and comparative explanation of their individual and/or organismal status, and secondarily, for the explanation and modeling of their normative bio-agential and cognitive processes, with a focus on perception, emotion, and aesthetics.

From 2013 until today, my research continuous at the Konrad Lorenz Institute for Evolution and Cognition Research (KLI) with the project is entitled: ♦Organizational Requirements and Regulation for Organismal Development and Maintenance♦. My research line continues with an emphasis on both the ontological and epistemic role of the concept of the endogenously produced regulation for organismal development, maintenance, and complex (agential) interactions with the environment.

As a possible Ramon y Cajal fellow, my mid- and long-term research vision is to integrate the aspects of my main research line by establishing a theoretical account of the organizational requirements of multicellular systems (and of the relevant biological complexity) for organismal identity, agency, and cognition. The main goal is to provide the ontological and epistemological foundations for an as complete as possible naturalistic explanation of the progressively complex developmental, interactive, and cognitive capacities brought forth in the course of evolution. The objectives of my line research will be addressed through a highly and genuinely interdisciplinary approach, which spans the fields of the Philosophy of Biology, Complex Systems Theory, Embodied Cognition and Interaction, and Theoretical Biology (with a focus on Evolutionary, Developmental/Morphological, and Physiological aspects in biology), combining them in a multi-level analysis and synthesis.

Resumen del Currículum Vitae:

I hold an interdisciplinary PhD (03/2008) on ♦Autonomous and Complex Systems Design♦ from the Department of Product and Systems Design Engineering (DPSD), of the University of the Aegean, in Greece. From 2008 to 2011 I was an adjunct lecturer and researcher in the DPSD with a high load of lecturing in both the under- and the post-graduate program.

From 2011 to 2013 I was awarded an individual Marie Curie research fellowship from the European Research Council (ERC) to work at the Department of Logic and Philosophy of Science, of the UPV/EHU, in Spain.

Since 2013 I have been (exceptionally) awarded for three consecutive times an annual research fellowship by the Konrad Lorenz Institute for Evolution and Cognition Research (KLI), in Austria.

I have published a total of 34 peer-reviewed scientific papers (26 in journals and 8 as book chapters in edited scientific collections in the form of books). 8 of my papers are published in Q1 journals in the area of Philosophy, History and Philosophy of Science, Philosophical and Theoretical Psychology.

I have co-edited one book with a collection of scientific papers. I have co-edited one special issue in a peer-reviewed Q1 journal. I have participated in more than 40 peer-reviewed international and national conferences. I have been officially invited more than 15 times to present my work in international workshops and seminars.

I have organized 2 international and 1 national conference, 1 international workshop and 1 international summer school.

I am a member of the board of the International Society for Biosemiotic Studies (ISBS) for 8 consecutive years. I have been at the editorial board of 3 peer-reviewed journals.

I have been continuously served as a referee for more than 15 ISI-indexed journals and book series.



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So far, I have continuously and consecutively secure funding for my research during all my pre- and post-doctoral years (a total of 15 years). This has provided the opportunity to achieve an international mobility of almost 5 years until now.

I have acquired highly competitive and prestigious individual fellowships the last 5 years (Marie Curie, and KLI fellowship).

I have an extensive experience in the preparation and management of competitive and non-competitive research projects at a European, national and international level. Specifically, I have been actively involved as a researcher and evaluator in a total of 8 European and international research projects funded by competitive calls, while I have acted as a Co-PI or coordinator in 4 non-competitive research projects.

I have an extensive ongoing network of collaboration with other researchers and thinkers from prestigious R&D centers and academic institutions and departments around the world.

I have successfully supervised 1 PhD and 11 BSc and MSc theses.

I have a genuinely inter- and multi-disciplinary research and academic profile that is immediately evident from my publication list.

My Google scholar metrics mention 246 citations with both an H-index of 10 and an i10-index of 10.