DEMOKRITOS

INSTITUTE OF INFORMATICS & TELECOMMUNICATIONS

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Director at the Institute of Informatics & Telecommunications
NCSR Demokritos

Curriculum Vitae
Athens, February 2025

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Executive Bio

I am the Director of the Institute of Informatics and Telecommunications (IIT) of NCSR "Demokritos" (NCSR-D), one of Greece's top Research Institutes in digital technologies. In this capacity, I have also served as Vice President of NCSR-D for 2 years. I am also the head of the Demokritos Department of electronic Governance since 2020. I am a member of the High-Level Advisory Committee on Artificial Intelligence (AI) to the Greek Prime Minister, a representative of Greece to the European AI Board and a member of the National Committee for Bioethics & Technoethics. I have also served as a member of the National Council for Research and Innovation (2019-2023).

As the Institute's Director, since 2019, I have contributed to the growth of IIT by following a comprehensive strategic plan based on the parallel and synergetic strengthening of three pillars: Research, Innovation, and Education, as well as on the establishment of the operational mechanisms to support these pillars. As a result, IIT has accomplished great achievements; some of which are listed below. The Institute has greatly increased its revenue in research funding obtained mainly from EU projects but also, from national and industrial sources. The expansion of joint MSc programmes with Greek Universities, one of the many activities of the Education pillar, has resulted in many graduates, that not only fed back the Institute's personnel with specialised professionals but have also strengthened the Institute's bonds with the industry through an expanded network of alumni. The set-up of ahedd Digital Innovation Hub, aiming at the empowerment of local SMEs and Enterprises with AI, Big data and IoT technologies, has been the corner stone of success in the Innovation pillar. This, along with a plethora of collaborations with regional, national and international industries and the efforts for innovation-centred research, has now culminated in IIT's leading role in "Pharos: the Greek AI Factory", one of the first 7 AI Factories of the European Union. These results would certainly be less impressive if they were not accompanied by a persistent effort to provide **a better work environment in terms of operations and working spaces.** At the operational level, IIT has taken over the set-up and management of the NCSR-D eGovernance office, the Network Operation Centre has been re-organised, the Human Resources (HR) strategy has been finalised and the HR unit has been set up. A generous investment on network and computational infrastructures has also been completed. The construction of the new smart IIT building, which also includes a tier-3 Data Center, will be completed by the end of 2025 creating a living lab environment that will also enhance well-being and productivity.

A detailed list of the achievements as IIT Director are available in Section 4 of this document and the respective Addendum

Before becoming the Director of IIT, I was the head of the Software & Knowledge Engineering Lab – SKEL, from 2004 until 2019. During these 16 years, SKEL achieved an explosive growth; from 6 lab members in 2004 to over 60 researchers in 2019. SKEL expanded its research efforts on multi-modal content analysis to two core research directions: (a) retrieval, extraction and fusion of multimodal and multisource information, and (b) intelligent and user-friendly human-computer interfaces. Organised in smaller research groups SKEL has become one of the largest research labs in NCSR-D and nationally. This growth was naturally the result of research excellency, education and innovation, including: the participation in and the coordination of European and national projects; the

training of new researchers through PhD and MSc programmes; increasing the visibility of the Lab through the organization or chairing of international and national conferences/workshops, as well as, the participation in standardisation bodies and scientific communities; exploiting research outcomes through creating spin-off and start-up companies, collaborating with various Greek and foreign enterprises through "open innovation" R&D collaboration agreements. Nevertheless, I consider a key aspect of the success the emphasis given on the promotion of the **values of diversity of thought, opinions and research interests, as well as in the values of collaboration and trust.** This created over the years the collaborative working environment that aspired SKEL lab members to contribute to team goals.

One of my **greatest visions and passions is** the pursuit for **aligning research excellency with the societal impact** through the vessel of **interdisciplinary research.** Back in the '90s, when I was completing my educational studies and starting off my career as a computer scientist, AI was going through the second 'AI winter'. In the early 2000's, when I overtook the leadership of SKEL, AI started to bloom again. The coordination of SKEL activities has allowed me to explore the potential AI was promising in various fields from multimedia and multi-source search, extraction, and fusion, to the interaction of AI-machines and humans. The intense involvement in projects that comprised multidisciplinary teams has unveiled not only the power of co-creation but also the indispensable requirement to build AI not in the lab's isolation but in constant discourse with the society.

An inconceivable path for many computer scientists at the time, yet a driving force for me, the co-creation of AI in a transdisciplinary way has become a personal goal. To this end, I set off to attract funding that directly targets societal challenges and to build a multidisciplinary team within SKEL. This has led to successfully diffusing AI to a series of research, innovation and policy making activities that I have also strongly facilitated through my position as director of IIT.

My strong commitment for interdisciplinary research has also been depicted in IIT's Strategic Plan directions since 2019: strong synergies within IIT, establishment of synergies among NCSR-D's institutes. Finally, across all these I have driven a series of activities, from school visits to the establishment of the AiTHERION digital philosophy exhibition, that not only raise awareness about science but also support citizens to navigate in the digital era.

The following sections of the CV, present my **personal details**, including my educational and professional experience (Section 1), followed by a summary of my **research path** (Section 2). Section 3 presents my achievements as **Head of SKEL** including the research and innovation activities, as well as the educational activities. A summary of my activities as **IIT Director** is presented in Section 4. **The detailed presentation of these activities is presented in an Addendum, attached to this CV.** Section 5 comprises short descriptions of the **research & development projects** which I have coordinated or participated in a substantial role (coordinator, technical/scientific manager, WP/task leader). My **education activities**, including the academic and mentoring experience (organising and lecturing M.Sc. courses, supervising doctoral, postgraduate and graduate theses, supervising internships), is presented in Section 6. The scientific **publications** (editorials, books, journals, conference papers) are listed in Section 7. Section 8 presents information with respect to **scientific recognition** (citations, committees, invited talks, conference organisation, conference committees, etc.).

I have also attached a document with my proposal for the **Strategic Plan for NCSR "Demokritos"** for the coming years. This proposal is based on my experience from the implementation of the IIT Strategic Plan, as well as on my experience in the management of NCSR "Demokritos" and my participation in the organization and implementation of several important national and European initiatives in research and innovation.

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1. Personal Details

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1. Personal details

Family Name, Given Name	Karkaletsis, Vangelis
Date of Birth	2 September 1966
Marital Status	Married, 1 child
URL for website	https://karkaletsis.iit.demokritos.gr/
Work Address	Director of the Institute of Informatics & Telecommunications NCSR "Demokritos" · 210 6503153 vangelis@Iit.demokritos.gr

Education and key qualifications

1995: PhD in Knowledge Representation and Information Extraction; Informatics & Telecommunications Department, National and Kapodistrian University of Athens – in collaboration with NCSR "Demokritos"
1990: M.Sc. in Artificial Intelligence; Queen Mary & Westfield College, University of London
1989: Diploma in Computer Engineering & Informatics; University of Patras

Current positions

2024-present: Representative of Greece to the European AI Board
2023-present: Member of the High-Level Advisory Committee on AI to the Greek Prime Minister
2021-present: Member of the National Committee for Bioethics & Technoethics
2020-present: Head of the Demokritos Department of electronic Governance
2019-present: Director of the Institute of Informatics and Telecommunications, National Centre for Scientific Research "Demokritos"

Previous positions

2020-2022: Vice President of NCSR "Demokritos"
2019-2023: Member of the National Council for Research and Innovation (ESETEK)
2010-2019: Adjunct Professor, Department of Computer Science & Engineering, University of Texas at Arlington, USA
2008-2019: Responsible for IIT educational issues
2004-2019: Head of Software & Knowledge Engineering Laboratory (SKEL The AI Lab), Institute of Informatics & Telecommunications, NCSR "Demokritos"
1999-2003: Researcher, Institute of Informatics & Telecommunications, NCSR "Demokritos"
1997-1999: Post-doctoral fellow, Institute of Informatics & Telecommunications, NCSR "Demokritos"

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2. Research Path

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2. Research path

My research activities have resided in the field of Artificial Intelligence (AI) since the very early stages of my career. Setting off my research path within the domains of Natural Language Processing, Knowledge Representation, and Personalised Human-Computer Interaction, I have since expanded and specialised the activities in these domains, following cutting edge developments in the field of AI.

In this section, I first present a chronological account of my research activities, always aligned with AI milestones up to 2019. Since 2019, from the position of IIT Director, my research interests are more appropriately mirrored by considering the societal challenges I have pursued to tackle through the diffusion and the exploitation of my expertise on AI.

The list of transdisciplinary domains along with respective important actions are listed in the second part of this section.

My career stage: Post graduate studies and early-career research 1990 - 2004 --- **AI milestones:** From the second winter of AI to the revival and emergence of Machine Learning	**Natural Language Processing (NLP)** Natural language interfaces for databases (MSc) **Knowledge Representation (KR)** Textual information extraction towards knowledge base enrichment (PhD) **Information Extraction and Personalised Information** Knowledge mining for the faster adaptation of textual information extraction systems in new topics, as well as, for the provision of personalised information based on user data (Post-Doc) | textual information extraction and filtering, and natural language processing from knowledge and data bases (Researcher)

My career stage: Head of SKEL	**Multimedia and Multi-source Search, Extraction, and Fusion**
2004 -2008 2008-2013 2013-2019 --- **AI milestones:** Big Data, Deep Learning	●Information extraction from Web content, towards automatic content labelling of web pages and standardisation for the World Wide Web ●Multimedia information extraction for ontology population ●Multi-document, multilingual summarisation ●Ontology-based information extraction from multimedia content ●Information extraction from Web and **social network content**, for interlinking information extracted from different sources and for argumentation mining ●Multimedia content/information extraction and fusion ●Language technologies and services for Greek ●**Big and Heterogeneous data management** and analysis ●Serious Games using information retrieval and extraction techniques ●Heterogeneous and Distributed Big Data Management ●Data management and analysis services for e-Infrastructures ●Big Data applications on environment, energy, biology, security ● Information extraction from web content, social networks and databases for multi-source information linking and argument extraction ● Sensitive data management

My career stage: Head of SKEL	**Intelligent and Personalised Human-Computer Interfaces**
2004 -2008 2008-2013 2013-2019 --- **AI milestones:** Big Data, Deep Learning	●Natural language interfaces for human-computer interaction ●Natural language interfaces for human-robot interaction ●User modelling for personalised human-computer interaction ● Trustworthy Human-Robot Interaction and Collaboration ● Natural Language Interfaces ● Trustworthy Human - AI interaction and AI ethics

The research activities during the last period as Head of SKEL (2013-2019) are expanded to cutting edge fields of the period and SKEL's positioning in the domain is further established by the involvement of the Lab in major research actions on Big Data management and analysis. Equally important is the **close collaboration with other Labs in NCSR-D, covering different disciplines (health, biology, environment, energy),** where Lab technology in data management and analysis is exploited.

The research activities and initiatives until 2019 have positioned SKEL and IIT, in general, to increase the impact of the scientific outcomes. From the position of the IIT director and based on synergies between IIT Labs and across NCSR-D Institutes, my research interests are

currently more appropriately mirrored not solely by considering cutting edge AI technologies but by how these are recruited to facilitate and empower transdisciplinary research for a sustainable, inclusive and secure society. The following list presents my current research interests, through several related IIT activities, clustered in 5 major areas.

AI and Innovation

- *Projects related to the European AI-on-demand platform (AIoD):*
  - DeployAI, Development and Deployment of the European AIoD Platform. This line of actions was initiated with the **AI4EU** project and also included the following projects: **AI4Copernicus** (I was the project coordinator), **AI4Europe** and **Pre-PAI**.
- *Actions related to Digital Innovation Hubs (DIH):*
  - ahedd DIH; NCSR-D's own DIH, aiming at the empowerment of local SMEs and Enterprises with AI, Big data and IoT technologies.
  - Smart Attica European DIH; the Greek DIH for AI in Energy and Environment, Supply chain and mobility, Culture and Tourism. **IIT coordinates SmartAttica EDIH** and brings in two more NCSR-D Institutes (INRASTES, INN).
  - Smart Health European Digital Innovation Hub
- *Use of computational resources for AI:*
  - NCSR-D is a consortium member of the Greek Competence Center for High Performance Computing and Artificial Intelligence
- *AI Factories*
  - *PHAROS, the Greek AI Factory*

AI for Society (Interdisciplinary research with Social Sciences and Humanities)

- **Culture**
  - AiTHERION fosters technology driven cultural experiences on ancient Greek philosophy. It was developed by the Ministry of Culture and the NCSR-D. It hosts interactive exhibitions, educational programs for schools, talks and special events, experimental art events through synergies with the Athens Conservatoire and in general serve as a Hub for public dialogue exploiting digital technologies.
  - VAST project. VAST has brought values to the forefront of advanced digitisation by providing advanced modelling, methods, techniques and digital tools, which also fostered collaborative study.
  - Aristotle's Lyceum. An innovative initiative approved by the Central Archaeological Council for the setup of a pavilion inside the archaeological site of the Aristotle's Lyceum that will host A/V equipment. This will be funded by the Attica Region in collaboration with the Ministry of Culture.
- **AI and Research Ethics**
  - CHANGER project. Promotes changes in research ethics reviews by strengthening the capacities of researchers to incorporate ethical judgements in the project design and implementation, and by supporting capacity building of Research Ethics Committees (RECs) to address new challenges posed by new technologies and new research practices.
  - MANOLO project. Aims to deliver a complete and trustworthy stack of algorithms and tools to help AI systems reach better efficiency and seamless optimization in their operations, resources and data required to train, deploy and run high-quality and lighter AI models in both centralised and cloud-edge distributed environments.
  - Apollonis project. The National Infrastructure for Language and Culture Resources and Technologies in Greece.

- **AI and Disinformation**
  - TITAN project. An AI-powered chatbot that revolutionises the way individuals learn to identify and stop the spread of disinformation. Designed for students, employees, and volunteers, TITAN uses an innovative, Socratic questioning approach to enhance critical thinking. Through interactive dialogue, users are guided to evaluate disinformation signals and independently determine the truthfulness of content.
  - AI4Trust project. Aims to combat misinformation and disinformation in the EU by creating a trust-based environment that integrates the automated monitoring of social and news media with advanced AI-based technologies to enhance the work of human fact-checkers.
  - D-AI-logue. Building on the results of the TITAN project, “D-AI-logue” will implement a generative AI assistant employing several methods, such as experiential learning, prebunking, the Maieutics dialectical method, etc., to help young adults to cultivate critical stance while consuming information, increasing their media literacy skills
- **AI and Health**
  - **Hellenic Network of Precision Medicine on Cancer**
  - **Flagship Action for SARS-CoV-2**

AI and Policy

- A Blueprint for Greece' s AI Transformation, High Level Advisory Committee on AI to the Prime Minister, 2024
- Generative AI Greece 2030 "Possible Futures of Generative Artificial Intelligence in Greece, 2024
- Opinion on the applications of Artificial Intelligence in health in Greece, National Bioethics and Technoethics Commission of Greece, 2024
- Democratising AI: A National Strategy for Greece, White paper, 2020
- Participation in the National Plan for Open Science, 2022
- Opinion on the applications of Artificial Intelligence in **Education** in Greece, National Bioethics and Technoethics Commission of Greece, 2025 (expected)

AI and Security /Defence

- IIT is coordinating or is strongly involved in European initiatives on the use of AI and data science in security and defence through a series of projects on-going or about to start (FaRaDAI, PopAI, FRISCO), in which several labs of IIT and other NCSR-D Institutes are involved.

AI and Natural Sciences

- IIT has coordinated or has been strongly involved in European initiatives on the use of AI and data science in Natural Sciences along with other NCSR-D Labs (Harmonise, ExtremeEarth, Fair4Fusion, ML-Multimem, IS-ENES, DARE, NOUS, MI-TRAP).
- IIT has also strongly contributed to the recent initiative for the foundation of the new NCSR-D **Institute of Quantum Computing & Quantum Technology**.

Additional details on the above projects are provided in section 5.

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3. Head of SKEL (2004 - 2019)

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3. Head of SKEL (2004 -2019)

3.1 Research activities

Since the beginning of 2004 and until the end of 2019, I served as the Head of the Software & Knowledge Engineering Laboratory – SKEL.

During the first period (2004-2008) a growth strategy for the Lab was designed and implemented, based on two core research directions:

(a) information retrieval, extraction and fusion from multiple media and sources,

(b) intelligent and personalised Human-Computer Interfaces.

The core of the strategy was the take up of initiatives for the coordination of European and national projects (either as project coordinators or scientific and technical coordinators) in the context of these two research directions. An important parameter for these initiatives was the close collaboration with the other Informatics lab of IIT, the Computational Intelligence Laboratory (CIL), to further extend our research activities towards multimedia content processing. These initiatives proved particularly successful, and the Lab took a coordinating or major role in a series of big European and national projects.

The Lab's growth strategy, apart from the continuous and laborious effort to assure funding through EU and national projects, it incorporated actions for solidifying the Lab's potential, ensuring its viability and further strengthening its potential for growth. These actions focused on the following aspects:

- Publication in multiple scientific journals and conferences. The goal was to publish in specific journals and conferences to improve the visibility of the Lab within the international research community.
- Educational and competence building activities towards attracting competent researchers and developers. These focused on the increase of PhD candidates under direct supervision from Lab researchers, the increase of post-graduate and graduate theses and internships, the participation in the organisation of post-graduate programmes, and the organisation of seminars. It's important to mention the joint PhD scholarship programme I initiated in 2007 together with the Computer Science & Engineering Department of the University of Texas at Arlington (UTA). The initial PhD programme formed the basis for a big collaboration program with various universities in US and Europe.
- Participation in major scientific events, such as organising or chairing national and international conferences (organisation of the International Conference on User Modelling (UM-07) in Corfu, co-chairing of the European Conference on Artificial Intelligence (ECAI-08) in Patras) towards increasing the visibility of the Lab in the international research community. Participating also in standardisation bodies and scientific communities, The Lab had strong activity during the period in Word Wide Web Consortium (W3C) activities, participating as one of the founding institutions of the Web Content Labelling Incubator W3C Group (WCL), which led to the creation of the Protocol of Web Description Resources (POWDER) Working Group that prepared the respective W3C Specification for content labelling in the Web.
- Development of the required hardware and software infrastructures to support research activities. It's worth to note the provision of various computational tools and resources

to the international research communities (e.g. the Ellogon language engineering platform, the Eleon framework for natural language processing, text corpora for training and evaluating filtering applications etc.).

- Investigation of various means for the exploitation of research outcomes, via patent submission, spin-off companies (i-sieve), open-sourcing computational tools, participation in standardisation bodies.

The growth strategy for 2004-2008 proved extremely successful, as evidenced by the funded R&D projects, the large number of publications, the educational activities, and the significant increase of SKEL personnel (at the end of 2008, the Lab comprised more than 20 persons).

The initial strategy was enriched in various ways **during the 2008-2013 period** maintaining the basic principle of targeting coordinating roles in European and national projects, while strengthening actions like the following:

- Intensifying research activities especially in the domains of multimedia information extraction and fusion, event recognition in data streams, and heterogeneous and distributed data management.
- Organising the Lab in research groups and creating a hierarchical structure with the uptake of responsibilities for the groups by experienced post-doc Lab researchers. At the end of the five years period, 3 research groups had been formed: *Content Analysis and Knowledge Technologies (CAKT), Complex Events Recognition (CER), Personalisation & Social Network Analysis (PerSoNA).* The target was the more efficient coordination and progress of research activities, providing stronger motivation and better exploiting the potential of experienced Lab personnel.
- Restructuring of the financial and administrative management of the Lab's projects to adapt to the needs posed by our participation in a large number of projects, in several of which as coordinators.
- Strengthening and effectively organising educational activities. The PhD scholarship programme was extended to more Universities in USA and Europe. As the responsible for IIT's educational activities, I upheld the overall coordination of the programme, while also organising the Institute's Education office to respond to the increased requirements of the scholarship programme and the other educational activities (graduate and post-graduate theses, internships, seminars).
- Strengthening collaboration within the Institute, within NCSR Demokritos and with external institutions, thus forming a network of regular collaborators in Greece and internationally. Within the Institute, we further strengthened collaboration with CIL lab. Within NCSR, we established the first synergies with Labs under the Institutes of Biology and INRASTES, which constituted the basis for collaboration in projects during the following five years. Outside NCSR, we sought the creation of regular and long-term collaborations with institutions and companies in Greece and abroad, something that contributed significantly to the successful submission and implementation of research projects.
- Further increasing visibility. A critical tool towards this direction was the organisation of important national and international conferences (organisation of the European Conference on Computational Linguistics (EACL-2009) in Athens, organisation of the 6th Panhellenic Conference on Artificial Intelligence (SETN-2010)).

- Exploitation of research outcomes. Besides the spin-off i-sieve, which during the period focused on the exploitation of sentiment analysis technologies for brand monitoring, we initiated our efforts for exploiting our research on multi-document and multilingual summarization, as well as, on document classification and named entity recognition from documents in the Greek language. These efforts yielded results during the following period (2013-2018).

During 2008-2013 the growth of the Lab continued in fast pace, as evidenced by the large number of R&D projects, publications, educational activities and the personnel growth. At the end of the period the Lab comprised about 40 persons, almost doubling its size compared to the previous period.

During the last period as Head of SKEL (2013-2019), research activities were further increased, as well as the visibility of the Lab at the national and international level. What is most significant for the period is the participation of the Lab in major research actions for Big Data management and analysis, and Artificial Intelligence. Also, the important and strong synergies with other NCSR-D Labs from different scientific disciplines (health, biology, environment, energy), where the data management and analysis expertise of the Lab can be exploited. Furthermore, I should emphasise the development of educational activities with the enhancement of the joint PhD programme (with Rice University and University of Houston entering the programme), the organisation of two MSc programmes, one on Data Science and one on Artificial Intelligence, the organisation of international research-centred summer schools, and the organisation of educational programmes for Primary and Secondary Education.

The Lab's strategic plan continued to rely on the uptake of initiatives for coordinating European and national projects, which was proved quite successful during the previous periods. It was, however, even more rewarding during this last period, due to the significant dynamics already established and the solidified positioning of the Lab at the national, European, and international level. Specifically, the adaptations of the growth strategy for the Lab had mainly to do with the following points:

- Strengthening research activity in Big Data management and analysis, in the context of big research projects, in collaboration with other NCSR labs where possible. The multidisciplinary nature of the relevant applications (environment, energy, health, transport, security, e-governance) is something worth noting.
- Expanding the hierarchical structure of the Lab to respond more efficiently to the scientific and technical challenges posed by the size and number of our projects. At the end of 2019, the Lab comprised of 6 research groups:

  ✔ *Content Analysis and Knowledge Technologies (CAKT)*: focuses on natural language analysis, data mining, machine learning, knowledge representation and visualisation, towards developing multimodal analysis methods and tools (e.g. text, image, audio, video).

  ✔ *Complex Event Recognition (CER)*: focuses on the management and analysis of noisy big data streams. The developed technology is founded on Event Calculus, a formalism based on Logic that supports effective reasoning about complex events.

- ✔ *Data Engineering Group (DEG)*: studies and analyses database indexing structures and database access requirements for modern analysis methods. Focusing on Big Data uses and applications, it develops smart systems for optimised data access.
- ✔ *Biomedical and Health Informatics (BioHIT)*: a horizontal Lab activity focusing on the application of knowledge mining and representation techniques, Big Data analytics and machine learning in the Biomedicine and Health sectors, e.g. Precision Medicine.
- ✔ *RoboSKEL* aims to apply Artificial Intelligence technologies in various fields of Robotics, such as Human-Robot Interaction, Human-Robot Collaboration and autonomous path and action planning.
- ✔ *Personalisation & Social Network Analysis (PerSoNA)*: it deals with information personalisation methods and data mining for user modelling, towards studying user trust and influence.

- Strengthening the project administration office of the Lab.
- Enhancing the technical support for the Lab's computational infrastructure, which was significantly expanded due to the involvement in Big Data management and analysis research.
- Promoting and disseminating research outcomes
- Expanding educational activities:
  - ✔ Expansion of the PhD scholarship programme in collaboration with US universities.
  - ✔ Organising and running an MSc programme in Data Science.
  - ✔ Organisation of international research-centred summer schools
  - ✔ Systematic design and organisation of educational programmes targeting primary and secondary education. Since September 2015, over 5,000 students have attended.
  - ✔ Initiation of competence programmes targeting business, in collaboration with market stakeholders. Organisation of entrepreneurship seminars.
- Solidifying the collaborations within the Institute and the Centre. At the Institute level, we continued our synergies with the Computational Intelligence Laboratory (CIL) and initiated new ones with the Integrated Systems Laboratory (ISL). At the NCSR level, we enforced our collaboration with Labs at the Institutes of Nanotechnology, Biology and INRASTES.
- Exploitation of research outcomes, namely the outcomes on multi-document and multilingual summarisation, and document classification and named entity extraction over texts in Greek (collaborations with EY, IBM Hellas, SciFY, ATC).

At the end of 2019, the Lab was at its most dynamic and productive position since its setup, having undertaken the coordination of major European projects, establishing synergies with Labs of other Institutes and Research Centres, actively participating in national infrastructure projects, and promoting important educational initiatives in Greece and abroad.

Since the beginning of 2020, SKEL is led by George Paliouras being constantly growing and aiming to further strengthen its international role in the field of AI. It is currently one of the largest AI Labs in the country, with more than 100 researchers.

3.2 Education Activities

My intense participation in MSc and competence programmes since the beginning of my career, led to the uptake and promotion of relevant activities, initially as Head of SKEL and later as the Institute's responsible for educational issues, until today as IIT Director.

The training of new researchers via PhD and MSc programmes was and continues to be one of the core aspects of SKEL's strategic growth plan, acting as the moving force for extending the Lab's research activities.

PhD Programmes

Until 2010, NCSR-D maintained a large PhD scholarship programme. When this was terminated (counting about 120 PhD students at that moment) because of the financial crisis, we designed and implemented an ambitious PhD scholarship programme, collaborating with international universities. The programme was based on existing synergies with Greek Professors in US and European Universities.

As the responsible for the educational issues of the Institute from 2008 until 2019, I took the initiative for coordinating the programme, starting with two universities, University of Texas at Arlington (UTA) in Computer Science (SKEL, CIL labs) and University of Loughborough (UL) in Telecommunications (WiCom lab). Each University co-signed a Memorandum of Collaboration and an agreement for a Joint PhD Programme. These documents formed the basis for the future partnerships and the programmes that followed. According to the agreed procedure, following the relevant call for applications every September, the students are selected by Lab's researchers in collaboration with the supervising professors, following the selection process established since the older NCSR-D scholarship programme. In the case of European Universities, students spend half of their PhD time at the University and the rest at NCSR Demokritos. In the case of US Universities – where the students must attend courses during their first 2 years – students remain there and then return to NCSR-D for about 1.5 year to carry out the core research of their thesis. In both cases, full scholarships were provided, covered by the university when the student resides there and from us when the students reside at NCSR. The scholarship also covered travel costs and conference fees.

The remarkably successful start of the programme led to the expansion of the collaboration network with more Universities, mainly in the US. It's worth to note the collaboration in this programme with Rice University, one of the top-ranked US Universities.

Until 2024, 14 students had completed their PhD, 3 in Telecommunications and 11 in AI. All the PhDs on AI were performed jointly with US Universities (University of Texas at Arlington, University of Houston, Rice University). The program completed in 2024 with the graduation of the last PhD student from the Rice University.

It should be noted that the collaboration with universities abroad was not limited to the joint PhD programmes, but is also extended to joint research and educational activities, new

projects co-funded by the US and the EU, joint summer schools and seminars, etc. This was our intension from the beginning, that is, to create a network with prestigious Institutions to help us establish and strengthen further our research activities.

Apart from the international PhD programme, SKEL had also active participation in the industrial scholarship programme of NCSR with the Stavros Niarchos Foundation (SNF) and various collaborating companies, started in mid-2017. This innovative initiative supported 4-year PhD scholarships (3 funded by SNF and 1 by the collaborating companies). SKEL participated with 4 students (2 in collaboration with DANAOS, 1 with ATC, and 1 with Marine Traffic), selected after the relevant application selection process.

We have also initiated the Qualco fellowships programme (Qualco is a fintech company). This is a 5-year Fellowship programme which supports young researchers to delve into their research in the fintech field using AI and Big Data. The programme provides fellowships for PhDs and Post-docs hosted at IIT, awards relevant MSc and BSc theses and internships, and supports hackathons in the field.

Furthermore, SKEL supports PhD candidates in collaboration with Greek universities, who work on research projects.

MSc Programmes

Several SKEL lab researchers have been very active as lecturers in MSc courses for some years (cf. section 6 regarding my own participation).

During recent years, the Institute participates in 3 cross-institutional MSc programmes with Greek universities. SKEL participates in two of them, which I set up:

MSc in Data Science: Started in 2017, as the result of collaboration between the University of the Peloponnese and IIT (led by SKEL Lab, with CIL participation). A 4-semesters programme initially. Currently, a 3-semesters programme is provided. It must be noted that most of its more than 100 students trained so far are coming from the industry aiming at improving their skills in big data management and mining, machine learning and applied data science.

MSc in Artificial Intelligence: This is the result of a collaboration between the Department of Digital Systems of the School of Information and Communication Technologies, of the University of Piraeus and IIT (led by SKEL with CIL participation). The MSc operates since 2019, involving mostly graduates of Computer Science / Engineering Depts. It provides a 3-semesters programme with courses in knowledge representation and reasoning, machine learning, natural language processing and others.

I was also actively involved in the setup of the new joint MSc in Quantum Computing & Quantum Technologies (started in 2022). This is a collaboration between the Institute of Nanoscience and Nanotechnology (INN), with IIT participation, and the Democritus University of Thrace. It aims to introduce students to cutting-edge applications and research in quantum computing and quantum technologies.

Graduate & Post-graduate Theses / Internships

As Head of SKEL and responsible for IIT's educational activities, I sought to better organise the application submission and monitoring process for postgraduate theses and internships. To this end, we dedicate a section of the Institute's website for announcing and updating proposed topics, facilitating our communication with interested students. The number of students enrolling for postgraduate exercises and internships has significantly increased in the recent years.

There are multiple benefits from our participation in theses and exercises, regarding the recruitment of research personnel and the collaboration with universities. Thus, we will try to extend our participation as an Institute in such activities during the next years.

Summer Schools

In the context of our joint PhD programme with the University of Texas at Arlington (UTA), and in collaboration with the University of the Aegean, we organised for 3 consecutive years (2011-2013) a study abroad program for graduate and post-graduate UTA students.

Furthermore, we organised for 2 consecutive years (2013-2014) an innovative **International Research-centred Summer School in Cognitive Systems and Interactive Robotics**. For approximately a month, about 30 students were organised in research groups (3 persons per group), uptaking the implementation of a research project relevant to the Lab's research activities, under the supervision of researchers from SKEL and collaborating institutions. Simultaneously, they attended daily lectures from Greek and foreign scientists, participated in hackathons, presented their assigned projects and – ultimately – competed for the best project prize. Many of the projects were subsequently presented in publications in international scientific conferences.

The summer school formed the basis for new SKEL collaborations as well as for the recruitment of new researchers. In the past years, I was involved in the organisation of the following summer schools at NCSR-D:

- **AthNLP2024**: The 2nd Athens Natural Language Processing Summer School took place from 19 to 25 September 2024 on the campus of NCSR-D. The school which gathered more than 120 University students from all over the world, was organised jointly by IIT of NCSR Demokritos, the Athens University of Economics and Business, Research Centre ATHENA and the Heriot-Watt University.
- **HIAS 2023** and **HIAS 2024**: HIAS Universal AI Course took place in July 2023 and July 2024 with more than 400 students attending each year.
- **IS-ENES3 Summer School on Data Science for Climate Modelling:** The IS-ENES3 Summer School took place from 1 to 7 September 2022 at NCSR-D. The Summer School is organised by the IS-ENES3 consortium and aims to increase expertise and skills on theoretical and practical concepts of Data Science, building upon and mainly targeting how to accelerate scientific discovery from data.
- **AthNLP2019**: The 1st Athens Natural Language Processing Summer School took place from 18 to 25 September 2019 on the campus of NCSR-D. The school which gathered more than 100 University students, was organised jointly by SKEL | The AI Lab of NCSR Demokritos, the Athens University of Economics and Business, Research Centre ATHENA and the Heriot-Watt University.

Educational Programmes for Schools

The need to systematically and effectively promote Demokritos' activities in society and particularly to primary and secondary education students was something that preoccupied me since the first years of my service as the Institute's responsible for education. Even though there were sporadic actions towards this direction (open gate days, school visits), they weren't systematic and under a concrete pedagogical framework.

Our collaboration – mainly through cultural research projects – with institutions like the Foundation of the Hellenic World, led me to the decision to design and implement in SKEL a new educational program, initially for late Primary and early Secondary education students, in collaboration with a professional museo-pedagogist.

The first educational program dealt with Human-Robot Interaction and was designed by the museo-pedagogist in collaboration with RoboSKEL, SKEL's robotics group. It started at the autumn of 2015 and was later enriched with a Brain-Computer Interface program. For the following year, we designed another educational program on databases for Secondary education students. The two programs spanned three days per week, from October until May, and met exceptional success. During the first two years (2015-2017) more than 3,000 students attended. The reviews from students and teachers were excellent.

Since the summer of 2017, and now with central support from Demokritos, the educational programs were extended to cover more of Demokritos' activities. The programs now cover all 5 working days throughout the school year, with almost 5000 students attending these programs every year. The programme's benefits are substantial for the Centre. Students coming from Attica mainly but also the periphery are informed in a pedagogically sound manner for our research activities, thus constituting the best means of promoting our work to society. In parallel, they are acquainted with research practices and disciplines, a fact that for some will be crucial on their future choices and paths.The success of the programme has created a great dynamic and enthusiasm to the participants. The challenge for the forthcoming years is to sustain and extend these, by incorporating new actions through even more NCSR Institutes.

3.3 Innovation activities

The effort to exploit research outcomes of SKEL started in 2003, when we produced a novel and effective methodology for web page classification. The method exploited machine learning, natural language analysis and image analysis, and presented significant commercial potential, as it allowed automatic page filtering. Thus, in 2004, we **founded i-sieve technologies spin-off** (www.isieve.com), initially focused on content analysis and web page classification services (the company was founded by C. Spyropoulos, G. Paliouras, V. Karkaletsis and C. Chandrinos, who served as the CEO). During the following years, the initial technology was enriched with information extraction methods and was applied to opinion mining from web pages, blogs, chats and other documents. It should be noted that the IPR for our technology was established via a patent by the Industrial Property Organisation (Method for probabilistic information fusion to filter multi-lingual, semi-structured and multimedia electronic content). I-sieve was hosted at the Lefkippos Technology Park of NCSR till 2020, providing brand monitoring services to international companies and corporations (since 2014, C. Chandrinos is the sole owner). Founding i-sieve was the first step on the

effort of exploiting Lab's research outcomes. During the last years, this effort intensified through various activities:

- A Lab for the provision of Informatics Services was founded, aiming to exploit research outcomes of the Informatics sector. The activities of this Lab along with the other Services Labs of IIT are currently performed through our Digital Innovation Hub "Attica Hub for the Economy of Data and Devices" ahedd DIH. I set up the ahedd DIH at the beginning of 2019, aiming to create an ecosystem of research & corporate entities that have know-how in offering digital transformation & innovation solutions using Artificial Intelligence, Big Data and Internet of Things technologies as horizontal enablers.
- In 2013, we signed an agreement with the non-profit organisation SciFY for exploiting NewSum technology for multi-document, multi-source and multilingual document summarisation. NewSum technology is constantly enriched with new methods, while new services and products are being developed.
- In 2015, we signed a collaboration agreement with IBM Hellas, uptaking document analysis for the Greek language (classification, named entity recognition, opinion mining), a service that was integrated with IBM services. I had the technical management of the relevant internal project.
- We received funding from the Google Digital News Initiative (DNI), through a competitive process, for 2 projects for research exploitation, for which I was responsible:
  - StoryBot provided an integrated platform for automated news production and presentation (publications). StoryBot incorporates tools for parallel data crawling from multiple feeds (e.g. RSS, social media APIs), content aggregation (including content clustering, categorization and summarization) and personalization features.
  - OpenJournalism (OpJ) aimed to strengthen the re-usability of open data by journalists through the following toolkit: (a) Company name matching and advanced search in public procurement, (b) 1-click provenance to original data source and (c) News enrichment through data tags.
- Two start-ups were created during the period by SKEL researchers: Langaware that predicts neurodegenerative diseases by detecting and monitoring digital biomarkers based on language and speech; Linked Business which provides analytical and decision-making tools for Greek companies, across various market segments, to discover and understand market trends, potential customers and competition.
- IIT offers innovative AI training programs addressed to businesses through ahedd DIH and SciFY. Leading AI-empowered Innovation that familiarise top-level executives with AI potentials and risks and build an AI roadmap by defining the first quick-win and value-generating pilots. AI Foundations workshop that intends to provide a quick familiarisation with Artificial Intelligence concepts and applications and use cases. Transforming your Business with AI, a personalised hands-on workshop. 1000 Pioneers for AI In Greece: This newly created initiative of SciFY and ahedd DIH aims to train 1000 Pioneers in AI who will act as advocates of AI in Greece.
- A notable R&D collaboration since 2019 has been the collaboration of SKEL with EY Global in AI, in the specialised field of document intelligence. Under this collaboration, the DICE-Centre of Excellence in Document Intelligence has been created. Within DICE, IIT Researchers and Research Associates conduct research for new technological solutions in

the field of document intelligence, which will be adopted and/or commercialised by EY Global. The outcome of research work in DICE is patents and scientific publications.

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4. IIT Institute Director (2019 - Today)

Curriculum Vitae
Athens, February 2025

4. IIT Institute Director (2019 – today)

Right after my election (November 2018), and even before taking over formally the Director's position (end of January 2019), I started setting in motion the strategic plan which I had presented to the election board. This plan is based on the parallel and synergetic growth of three pillars (Research, Innovation, and Education) and the establishment of the corresponding support mechanisms for these pillars. It exploits the principles and experiences from leading SKEL and coordinating various research, innovation and education activities.

During the 6 years of my duty as IIT Director, the implementation of the strategic plan was quite successful **(a detailed description is given in the Addendum of the CV "Report of IIT Director 01/2019 – 02/2025")**.

As it concerns the Research pillar, the Institute met significant success in attracting funding from diverse sources, with EU projects remaining the major one, but with national and industrial projects contributing substantially to the overall revenue. What is also important is the fulfilment of the goal to coordinate or have a leading role in these projects, as the best means to ensure that effort is focused on the core scientific agendas and aligned with the identity of the Institute.

Moreover, the period is characterised by the strengthening of the intra-Institute collaborations and the gradual shaping of a common research space, expected to expand further in the future, as solutions combining AI and Advanced Telecommunication Networks gain continuously growing interest. Synergies with other NCSR-D Institutes were also strengthened through several research projects and initiatives, in the domains of health, materials, energy and environment, where the exploitation of AI and big data analytics is growing. It must be noted that we have reached a point where IIT researchers and researchers of other Institutes are able to share objectives and vision, building upon their needs and expertise. This process started before the reporting period and significantly expanded during the last years.

Furthermore, IIT contributed its expertise to strategic initiatives and actions with national and European impact, along with Greek and European organisations. The coordinating role of IIT in the Hellenic National Strategy for AI, its participation in national and European flagship actions, its role in the European AI on demand platform, the setup of the House of Classical Greek Ideas, are among these initiatives.

The Education pillar continued to develop through the joint PhD programmes with foreign Universities, the setup of industrial fellowships, the organisation of summer schools and seminars as well as the expansion of joint MSc programmes with Greek Universities.

Innovation was the area that met the most drastic changes, due to – on the one hand – the increased focus of the Institute on the pillar and – on the other hand – the significant developments in the management of innovation-centred research at the European level and the changes in the financial and business status of the country. IIT made the most of the new opportunities stemming from the emergence of Digital Innovation Hubs as a major catalyst for connecting research and industry, and the increased demand from start-ups and emerging enterprises for advanced technologies. IIT has been a pioneer within NCSR-D and probably in the whole Greek innovation ecosystem, in promoting, creating, and

commercializing innovation, particularly through collaborations with enterprises for further research, specialized consulting services and exploitation of IIT know-how in product development.

At the operational level, the Institute reorganised effectively its structure and put in place the support mechanisms required for ensuring its growth in all strategic pillars. IIT comes out of the period with a stronger and better-organised administrative setup and a dedicated communications team ensuring that its activities and achievements get visibility and strengthen their impact. Furthermore, the organisation of strong IT operations, including the setup and management of the NCSR-D eGovernance office, the re-organisation of the Network Operation Center and the renovation of our network and computational infrastructure, ensure that the Institute is equipped to handle the increased demand set by its central role within NCSR-D as the entity responsible for serving the connectivity, data management and compute requirements across disciplines. Furthermore, with respect to the building infrastructures, IIT office spaces were expanded and renovated to cover our increasing needs until the construction of our new smart building which is scheduled at the end of 2025. Our aim is to exploit the features of the new building in our research initiatives in AI and IoT.

It is worth mentioning, that during the last 6 years, the scientific areas where IIT historically excels and focuses on, met seismic changes, radical developments and constant presence in the business world and the public eye. The society and the economy are even more dependent on data, are relying on fast and robust connectivity using advanced network technologies, and integrate AI in its many facets, from day-to-day activities to high-level decision support. The situation, while naturally offering a multitude of opportunities, also leverages the responsibilities of the Institute to lead scientific developments in these areas while also considering and tackling the ethical, legal, and social implications of the technology. IIT is already in the vanguard of the ethical AI movement as prioritised by the EU, having important scientific and policy results on the subject. The Institute actively puts effort in the democratisation of AI, via the provision of affordable high-tech solutions to smaller companies and individuals, the organisation of seminars on AI and its usage and its central role in flagship European and national actions that shape the future of AI in the Union and the world.

It must also be noted that during my duty as IIT Director, I served as Vice President of NCSR “Demokritos” for 2 years (July 2020 – July 2022). In my duties as Vice President, I also served as NCSR Director from May 2021 until July 2021. I am also the head of the Demokritos Department of electronic Governance since 2020.

I am a member of the High-Level Advisory Committee on Artificial Intelligence (AI) to the Greek Prime Minister, a representative of Greece to the European AI Board and a member of the National Committee for Bioethics & Technoethics. I have also served as a member of the National Council for Research and Innovation (2019-2023).

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DEMOKRITOS

INSTITUTE OF INFORMATICS & TELECOMMUNICATIONS

5. Research & Development Projects

Curriculum Vitae
Athens, February 2025

5. Research and Development Projects

This section summarises the R&D projects which I have coordinated or participated over the years. Section 5.1 highlights some of the most recent projects that I have been involved in various capacities clustered in the fields presented in Section 2.

The ongoing projects in which I have had a coordinating role (project coordinator, scientific/technical coordinator, scientific lead for NCSR-D) are presented in Section 5.2, followed by the past projects in Section 5.3. More information for the projects can be found at: www.iit.demokritos.gr/research/projects/

5.1 List of recent projects by impact areas

AI and Innovation

- *Projects related to the European AI-on-demand platform (AIoD):*
  - DeployAI, Development and Deployment of the European AI-on-demand Platform; AI4EU; AI4Copernicus; AI4Europe, Pre-PAI.
- *Digital Innovation Hubs:*
  - ahedd Digital Innovation Hub; Smart Attica European Digital Innovation Hub; Smart Health European Digital Innovation Hub
- *Projects related to the EuroHPC*
  - EuroCC-II and EuroCC
- *AI Factories*
  - PHAROS

AI for the Society (Interdisciplinary research with Social Sciences and Humanities)

- *Culture*
  - AiTHERION; VAST
- *AI and Research ethics*
  - CHANGER; MANOLO; Apollonis
- *AI and Disinformation*
  - TITAN; AI4Trust project; D-AI-logue
- *AI and Health*
  - Hellenic Network of Precision Medicine on Cancer; Flagship Action for SARS-CoV-

AI and Security /Denfence

- FaRaDAI, PopAI, FRISCO

AI and Natural Sciences

- Harmonise, ExtremeEarth, Fair4Fusion, ML-Multimem, IS-ENES, DARE, NOUS, MI-TRAP

5.2 Ongoing Projects

5.2.1 EU Projects

The following table lists the ongoing projects in which I have had a coordinating role (project coordinator, scientific/technical coordinator, scientific lead for NCSR-D) **The budget for NCSR-D,** for all the EU on-going projects that I am responsible for, **is more than 12,000,000€.**

Ongoing EU projects

Project	NCSR-D Budget	My role
AI FACTORIES - PHAROS	5,600,000€	Scientific Lead for NCSR-D
DeployAI	2,041,025€	Scientific Lead for NCSR-D
AI4EUROPE	547,500€	Scientific Lead for NCSR-D | member of the project's management board
MANOLO	532,500€	Scientific Lead for NCSR-D
CHANGER	547,500€	Project Coordinator
EuroCC 2	389,266€	Scientific Lead for NCSR-D
FaRADAI	600,000€	Scientific Lead for NCSR-D
SmartAttica-AtHeNAI	1,330,432.65€	Project Coordinator
D-AI-logue	750,000€	Technical Lead for NCSR-D

Following, further details about the aforementioned projects are provided.

AI FACTORIES - PHAROS: The Greek AI Factory for accelerating AI Innovation	Programme: **HORIZON-JU-RIA** Start date: **01/04/2025** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **5,600,000 €**

"Pharos: The Greek AI Factory for Accelerating AI Innovation," aims to establish an EU AI Factory in Greece, strategically leveraging the pre-exascale supercomputer "Daedalus" to accelerate AI innovation. This initiative aims to democratize AI by providing resources and tools accessible to various end-users, focusing on startups and SMEs. By focusing on key societal challenges in Health, Culture & Language, and Sustainability, Pharos will drive trustworthy AI solutions that address critical needs. A strong emphasis on trustworthy AI development ensures that Pharos prioritizes data privacy, security, and ethical considerations throughout the entire AI lifecycle. Furthermore, as part of the wider network of EU AI Factories, Pharos will establish concrete networking and collaboration avenues with other EU initiatives (EDIHs, Data Spaces, NCCs, DeployAI, other AI Factories), contributing to a cross-border AI innovation ecosystem. Pharos represents Greece's commitment to pioneering in the HPC-powered AI field, with a vision to become a key contributor to ethical and responsible AI use in Europe. By aligning with EuroHPC's strategic goals, Pharos aims to contribute significantly to Europe's AI landscape, fostering innovation, sustainability, and digital sovereignty.

DeployAI: Development and Deployment of the European AI-on-demand Platform	Programme: **DIGITAL-CSA** Start date: **01/01/2024** Duration: **48 months**	My role: **Scientific Lead for NCSR-D**

		NCSR-D budget: **2,041,025€**

DeployAI aims to build, deploy, and launch a fully operational AI-On-Demand platform (AIoDP) promoting trustworthy, ethical, and transparent European AI solutions for use in the industry, mainly for SMEs, and in the public sector. The development of the AIoDP will be based on the requirements of the Pre-PAI and the ongoing AI4Europe projects. DeployAI will provide a comprehensive and Trustworthy AI (TAI) resource catalogue and marketplace, which offers responsible AI resources, and tools, ensuring easy access for end-users and asset developers, and meeting industrial standard requirements. AIoDP will allow the rapid prototyping of TAI applications and their deployment to a variety of cloud/edge/HPC infrastructures. To lower the entry barrier of using AI and to offer advanced AI capabilities, responsible European LLMs will be integrated in the AIoDP to enable services for downstream tasks, fine-tuning and other complex GPAI workflows. The AIoDP will be embedded in the European AI ecosystem, especially to EDIHs, TEFs, Dataspaces, SIMPL, and HPC/Cloud/Edge infrastructure. Interfaces to European initiatives and industrial AI-capable cloud platforms will be implemented, including an open API, to enable interoperability.

AI4EUROPE: An AI On-Demand Platform to support Research Excellence in Europe	Programme**:** **Horizon Europe** Start date: **01/07/2022** Duration: **42 months**	My role: **Scientific Lead for NCSR-D | member of the project management board** NCSR-D budget: **547,500 €**

AI4Europe is implementing an AI strategy that seeks to create a research environment characterised by scientific excellence and consistent with the fundamental ethical values of its citizens. Part of this strategy foresees the consolidation of ongoing research activities through the creation and maintenance of an AI on-demand Platform that will act as a community resource for the research community, facilitating experimentation, knowledge sharing and the development of state-of-the-art solutions and technologies. AI4Europe builds on the work of AI4EU and multiple supporting projects (ICT-48/ICT-49), creating an open, impartial, and collaborative Platform, built by the European research community according to their needs.

D-AI-logue: Civic dialogue through AI & collaborative experiences	Programme**:** **Collaboration with Private Sector** Start date: **01/01/2025** Duration: **37 months**	My role: **Technical Lead for NCSR-D** NCSR-D budget: **750,000 €**

Young adults are vulnerable to manipulative tactics spread through news and social media, hindering their ability to engage in informed civic dialogue. To address this “D-AI-logue” will implement a generative AI assistant employing several methods, such as experiential learning, prebunking, the Maieutics dialectical method, etc., to help young adults to cultivate critical stance while consuming information, increasing their media literacy skills. D-AI-logue combines transformer-based classifiers, few-shot LLM learning, and co-creation with citizens, to help users detect manipulation tactics.

SmartAttica-AtHeNAI: Smart Attica DIH, the Attica region - Greek Innovation hub for Artificial Intelligence in Energy and Environment, Supply chain and mobility, Culture and Tourism	Programme**:** **DIGITAL-SIMPLE** Start date: **01/11/2022** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **1,330,432.65 €**

SmartAttica aims to constitute the reference AI EDIH of Greece and increase the digital maturity of Greek businesses and local authorities through increased AI uptake. Its thematic focus lies upon 3 financial activity sectors which are critical for the targeted Attica region and the Greek economy: Energy and Environment, Supply chain and mobility, as well as Culture and Tourism, and are also aligned to established international and national actions for green, sustainable, inclusive digital growth. The Hub is based on existing clusters and EU-wide initiatives, making it a valuable policy-support instrument towards key EU directions. SmartAttica mobilises powerful infrastructures and facilities, from 5G to HPC to the entire NCSR-D smart campus, where solutions of all sectors can be deployed, tested and analysed. SmartAttica services (test-before-invest, upskilling, networking and investment support) will seamlessly integrate with EEN and local business networks. They will also build upon the world-level Hub's expertise on AI, supported by the HPC & Cybersecurity consortium knowhow, but also horizontally integrate the human-centric, ethics-by-design EU AI vision, and infuse resilience and sustainability considerations across service provision.

EuroCC 2: National Competence Centres in the framework of EuroHPC Phase 2	Programme: **DIGITAL-JU-SIMPLE** Start date: **01/01/2023** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **389,266 €**

The mission of EuroCC 2 is to continue the establishment of a network of National Centres of Competence (NCC) in the most efficient way (it follows up the initial EuroCC project), while continuing to address the differences in the maturity of HPC deployment in Europe, for which improvement has already been noted. Therefore, in addition to high-level management to monitor progress in the NCCs' development, the main task of the overall activity is to support national centres in setting up their individual operational frameworks, while accessing and making the most of the experience and expertise currently available at national and European level.

FaRADAI: Frugal and Robust AI for Defence Advanced Intelligence	Programme: **European Defence Fund Action** Start date: **01/12/2022** Duration: **42 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **600,000 €**

An important crosscutting need for AI is to create technologies for trustworthy autonomous and frugal learning, i.e., the ability of a system to adapt and learn from its environment, including from user supervision, for a reasonable cost and without intervention from expert developers nor regression. Such technologies can be highly disruptive and have high impacts for many capabilities, especially when the information to manage is highly variable or unpredictable and high adaptability is needed. Within the FaRADAI project, current advances in AI technologies will be thoroughly researched in parallel with a detailed study of the main challenges imposed by a defence system. Aiming at significant breakthroughs in AI, the models will accelerate their wider application and deployment in defence systems increasing their impact and the overall performance.

MANOLO: Trustworthy Efficient AI for Cloud-Edge Computing	Programme: **Horizon Europe** Start date: **01/01/2024** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **532,500€**

MANOLO will deliver a complete stack of trustworthy algorithms and tools to help AI systems reach better efficiency and seamless optimisation in their operations, resources and data required to train, deploy and run high-quality and lighter AI models in both centralised and cloud-edge distributed environments. It will push the state of the art in the development of a collection of complementary

algorithms for training, understanding, compressing and optimising machine learning models by advancing research in the areas of: model compression, meta-learning (few-shot learning), domain adaptation, frugal neural network search and growth and neuromorphic models. Novel dynamic algorithms for data/energy efficient and policy-compliance allocation of AI tasks to assets and resources in the cloud-edge continuum will be designed, allowing for trustworthy widespread deployment. MANOLO will be deployed as a toolset and tested in lab environments via Use Cases with different distributed AI paradigms within cloud-edge continuum settings; it will be validated in verticals such as health, manufacturing, and telecommunications aligned with ADRA identified market opportunities, and with a granular set of embedded devices covering robotics, smartphones, IoT as well as using Neuromorphic chips. MANOLO will integrate with ongoing projects at EU level developing the next operating system for cloud-edge continuum, while promoting its sustainability via the AI-on-demand platform and EU portals.

CHANGER: Challenges and innovative changes in research ethics reviews	Programme: **Horizon Europe** Start date: **01/01/2024** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **547,500€**

CHANGER aims to promote changes in research ethics reviews that strengthen the capacities of researchers to incorporate ethical judgements in the project design and implementation, and to support ethics committees to address new challenges posed by new technologies and new research practices. CHANGER will review current practices and ethics criteria, will identify and discuss new challenges emerging from new technologies and from new research practices, which are not sufficiently covered in the current review process, will provide innovative training to ethics review experts and researchers, and propose innovative approaches and tools to ethics review reform and new understandings to practice ethics by design, supported by guidelines and a policy roadmap. The CHANGER interdisciplinary consortium has extensive and long-standing experience-based expertise in research ethics reviews, integrity oversight and human rights and is capable of providing novel solutions to the needs in ethics reviews.

5.2.2 National Projects

The listed national projects are organised in the following categories:

- Culture: AITHERION,
- Fellowships: Qualco

The **NCSR-D budget** for these on-going national projects, I am responsible for, is **more than 900,000 €.**

Project	**NCSR-D Budget**	**My role**
AITHERION	300,000€	Scientific Responsible
Qualco Fellowship programme	620,000€	Scientific Advisor

AITHERION: **Digital Exhibition services**	Programme: **National** Start date: **01/06/2024** Duration: **24 months**	My role: **Scientific Responsible** NCSR-D budget: **300,000€**

AiTHERION is a space that fosters technology driven cultural experiences on ancient Greek philosophy. It hosts interactive exhibitions, educational programs for schools, talks and special events, experimental art events through synergies with the Athens Conservatoire. It is an Open Lab for testing technologies for culture and also serves as a Hub for public dialogue. AiTHERION is housed in the emblematic building of the Athens Conservatoire, in the heart of Athens, next to the archaeological space of Aristotle's Lyceum (https://aitherion.gr/en/)

Qualco Fellowship programme	Programme: **National** Start date: **01/09/2021** Duration: **60 months**	My role: **Scientific Advisor** NCSR-D budget: **620,000€**

NCSR Demokritos and Qualco, a leader in providing technology solutions and services that cover the full range of loan and credit management lifecycle, are pleased to announce their collaboration for the promotion of innovation, utilising Artificial Intelligence and Big Data management technologies to meet business challenges in the field of financial technology (Fintech). NCSR Demokritos & Qualco launch the NCSR D – Qualco Fellowship programme which supports young researchers to delve into their research in the Fintech field using AI and Big Data, two of the research areas that the Institute of Informatics and Telecommunications is extremely active (https://www.iit.demokritos.gr/education-qualco-fellowships/).

5.3 Completed Projects

5.3.1 EU Projects

Out of this long list of projects, I would like to stress some of the recently completed ones (as of 2018):

- **European AI on Demand Platform:** Pre-PAI, AI4Copernicus, ExtremeEarth, AI4EU
- **Ecosystem of European Digital Innovation Hubs (EDIHs):** DIH-World, i4Trust, EUHubs4Data, DIH4CPS
- **Competence centres in the framework of EuroHPC programme:** EuroCC
- **Defence, Security:** FRISCO (coordinator)
- **Research infrastructures:** IS-ENES3, Fair4Fusion, DARE (coordinator)
- **Marie-Curie:** ML-Multimem
- **Robotics:** iRTA, RADIO (coordinator)
- **Big Data:** Big Data Europe
- **Tackling disinformation**: Data Stories, Open Journalism, StoryBot, Your Data Stories

Pre-PAI: Preparation of the development of the AI on Demand platform	Programme: **DIGITAL-CSA** Start date: **01/12/2022** Duration: **9 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **13,375 €**

Pre-PAI has bee the realization of "Preparatory actions for the AI on Demand platform" providing the blueprint for the further development, deployment, and operation of the European AI-on-demand platform. The project will carry out a comprehensive requirement analysis for different stakeholder groups, mainly SMEs, industrial sectors, and public administration. These requirements analyses will lead to an overall roadmap and plan to build and consolidate the AI-on-demand platform. It includes a comprehensive concept to provide trustworthy AI assets into the platform to support European leadership on trustworthy AI and to offer AI "Made in Europe".

AI4Copernicus: Reinforcing the AI4EU Platform by Advancing Earth Observation Intelligence, Innovation and Adoption	Programme: **H2020** Start date: **01/01/2021** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **2,703,125 €**

AI4Copernicus aims to make the AI-on-demand platform (AIoD) the platform of choice for users of Copernicus data along the value chain (scientists, SMEs, non-tech sector). AI4Copernicus will achieve this by exposing AIoD resources on DIAS (data and information access services) platforms, making it easy to procure computing power and large EO data, as well as to access training material and expertise. AI4Copernicus proposes to reinforce and optimise the AIoD platform service offering with AI4Copernicus datasets, tools and services relevant to Copernicus data to facilitate the use and uptake of the platform resources in domains of high economic and societal impact, such as in Agriculture, Energy and Security. A series of 4 open calls have been planned, leading to 8 small-scale experiments (smaller, single-beneficiary experimental projects targeting technology-advanced users) and 9 use-cases (larger-budget projects, involving at least one non-technology user). The open calls will necessitate the utilisation of DIAS platforms, Copernicus data, the AIoD platform and the services and resources that will be provided by the AI4Copernicus project. Through organising, facilitating and mentoring these Open Calls, AI4Copernicus will reach out to new user domains and boost the use of the AIoD platform.

ExtremeEarth: From Copernicus Big Data to Extreme Earth Analytics	Programme: **H2020** Start date: **01/01/2019** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **426,250 €**

Copernicus is the European program for monitoring the Earth. The geospatial data produced by the Sentinel satellites puts Copernicus at the forefront of the Big Data paradigm, giving rise to all the relevant challenges: volume, velocity, variety, veracity and value. ExtremeEarth concentrates on developing the technologies that will make Europe a pioneer in the area of Extreme Earth Analytics i.e., the Remote Sensing and Artificial Intelligence techniques that are needed for extracting information and knowledge out of the petabytes of Copernicus data. The research and innovation activities undertaken in ExtremeEarth will significantly advance the frontiers in Big Data, Earth Analytics and Deep Learning for Copernicus data and Linked Geospatial Data and make Europe the top player internationally in these areas. The ExtremeEarth technologies will be demonstrated in two use cases with societal, environmental and financial value: the Food Security use case and the Polar use case.

AI4EU: A European AI On Demand Platform and Ecosystem	Programme: **H2020** Start date: **01/01/2019** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **105,625 €**

AI4EU will efficiently build a comprehensive European AI-on-demand platform to lower barriers to innovation, to boost technology transfer and catalyse the growth of start-ups and SMEs in all sectors through open calls and other actions. The platform will act as a broker, developer and one-stop shop providing and showcasing services, expertise, algorithms, software frameworks, development tools, components, modules, data, computing resources, prototyping functions and access to funding. Training will enable different user communities (engineers, civic leaders, etc.) to obtain skills and certifications. The AI4EU Platform will establish a world reference whilst interoperable with existing AI and data components and platforms. It will mobilize the whole European AI ecosystem and already unites 80 partners in 21 countries including researchers, innovators and related talents.

DIH-World	Programme: **H2020** Start date: **01/03/2022** Duration: **21 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **28,500 €**

DIH-World aims to harmonise and widen the landscape of European DIHs across all of Europe to address the “digital innovation hubs divide”. DIH-World aims to accelerate the uptake of advanced digital technologies by European manufacturing SMEs in all sectors by supporting them in building sustainable competitive advantages and reaching global markets.

i4trust: Data Spaces for effective and trusted data sharing	Programme: **H2020** Start date: **24/01/2022** Duration: **10 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **7,500 €**

i4Trust aims to support different players in the creation of Data Spaces by relying on common standard-based mechanisms for data interoperability, data value creation, as well as data sovereignty and trust. SMEs and DIHs – spanning across a wider variety of regions and sectors in Europe – have been invited to contribute with innovative experiments toward supporting a sustainable Data Economy.

EUHubs4Data: European Federation of Data driven Hubs	Programme: **H2020** Start date: **01/10/2021** Duration: **26 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **52,200 €**

Most of Europe’s SMEs lag behind in data-driven innovation. To tackle this problem, EUHubs4Data project will build a European federation of Data Innovation Hubs based on existing key players in this area and connecting with data incubators and platforms, SME networks, AI communities, skills and training organisations and open data repositories.

DIH4CPS:	Programme: **H2020** Start date: **01/09/2021**	My role: **Scientific Lead for NCSR-D**

DIHs for Embedding Interoperability in Cyber-Physical Systems of European SMEs	Duration: **20 months**	NCSR-D budget: **20,000 €**

This initiative for Fostering DIHs will help European enterprises overcome the innovation hurdles and establish Europe as a world leading innovator of the Fourth Industrial Revolution. DIH4CPS will create an embracing, interdisciplinary network of DIHs and solution providers, focused on cyber-physical and embedded systems, interweaving knowledge and technologies from different domains, and connecting regional clusters with the pan-European expert pool of DIHs.

EuroCC: National Competence Centres in the framework of EuroHPC	Programme**:** **H2020** Start date: **01/09/2020** Duration: **32 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **350,000 €**

The EuroCC project aims to implement the European network of National Competence Centres (NCC) in the area of high-performance computing (HPC), by establishing in each of the participating nations (33 member and associated countries), a HPC Competence Centre as a reference and single contact point for academia, industry, public administrations and the general public. The project aims to elevate the participating countries to a common high level in the fields of HPC, HPDA (high-performance data analytics) and artificial intelligence (AI). NCSR Demokritos is a member of EuroCC and participates in the Greek National Competence Center (NCC).

FRISCO: Fighting teRrorISt Content Online	Programme**:** **ISF-PJG (Internal Security Fund)** Start date: **01/10/2022** Duration: **24 months**	My role: **Project Coordinator** NCSR-D budget: **309,337 €**

Terrorist content and other illegal content online are an increasing issue both from a security and public policy perspective. As a response, the Terrorist Content Online (TCO) Regulation is addressing violent extremism and the dissemination of TCO, setting out specific measures that hosting service providers (HSPs) exposed to TCO must implement. However, these measures might represent an important burden for HSPs and especially for micro and small HSPs, which are the target group of this call and this project “Fighting Terrorist Content Online” - FRISCO. The general objective of FRISCO is to support HSPs to comply to the TCO regulation, through (a) Informing and increasing HSPs’ awareness of the TCO Regulation and their new obligations; (b) Developing and validating tools, frameworks and mechanisms to support HSPs in the implementation of the TCO regulation; (c) Sharing experience, best practices and tools to support the implementation of the TCO regulation.

IS-ENES3: Infrastructure for the European Network for Earth System modelling - Phase 3	Programme**:** **H2020** Start date: **01/01/2019** Duration: **39 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **107,500 €**

IS-ENES3 will deliver the third phase of the distributed e-infrastructure of the European Network for Earth System Modelling (ENES). IS-ENES3 will stimulate collaboration, disseminate software and data, and further integrate the European climate science community. It will deliver the European part of the Earth System Grid Federation and a central point of entry to services providing access to new data, software, models and tools.

Fair4Fusion: Fair for Fusion - open access for fusion data in Europe	Programme: **H2020** Start date: **01/09/2019** Duration: **24 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **280,000 €**

The European fusion community has become increasingly collaborative over the last few decades with more experimental devices becoming available for broader groups of researchers. The diversity of devices is a great strength of the programme, but as each facility largely has developed their own data technologies, philosophies and access methodologies it has in some cases also presented challenges in sharing data even between collaborating scientists. Opening the data up and making them more easily available on a pan-European basis is a key ingredient in exploiting the investments in the research infrastructures made so far. We aim in this proposal to achieve all of the goals specified in this call by not only providing a reference architecture for such an open data platform, but to both demonstrate and elicit feedback from existing users within the fusion domain, to ensure they are both exposed to the benefits of such an open science approach and that we are able to obtain feedback to provide input into the design.

DARE: Delivering Agile Research Excellence on European e-Infrastructures	Programme: **H2020** Start date: **01/01/2018** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **440,000 €**

DARE (Delivering Agile Research Excellence on European e-Infrastructures) aims to provide scientific communities with a unifying hyper-platform and development context to allow for user-friendly and reproducible carrying out of huge data-driven experiments, and rapid prototyping. DARE specifically addresses the requirements of innovating teams of research developers and scientists, who work on the intersection of software engineering and scientific domains, and on data, complexity and computing extremes. Building on extensive experience in research e-infrastructures, semantification and the handling of metadata, and on bigdata technologies and domain applications, DARE will equip teams of innovators with meaningful abstractions and tools allowing for rapid prototyping of reproducible and efficient research solutions. DARE will improve further and integrate tried and tested programmatic dataflow specification APIs, big-data technologies and provenance/data-lineage solutions to address the requirements of European RIs, initially of EPOS, on Earth science, and IS/ENES2, on climate.

ML-MULTIMEM: Machine Learning-aided Multiscale Modelling Framework for Polymer Membranes	Programme: **Marie Sklodowska-Curie Actions** Start date: **15/11/2021** Duration: **24 months**	My role: **Project Coordinator** NCSR-D budget: **153,085 €**

The goal of this project is to build a systematic modelling framework for advanced polymer materials,. Polymers are very challenging to simulate, due to the wide range of timescales that are present in these systems and require elaborate system-specific multiscale strategies. A hierarchical simulation strategy will be developed, encompassing atomistic, mesoscopic and continuum scales, integrating machine learning techniques. The artificial intelligence aided multi-scale approach proposed constitutes a generalized methodology for the efficient computational study of polymers. The synergy of unsupervised machine learning (ML) clustering techniques and neural networks (NN), will enable the extraction of accurate coarse-grained (CG) representations and force fields of the

polymer systems, bringing this complex problem within computational reach. The project is a synergy between SKEL The AI lab and the Institute of Nanoscience and Nanotechnology (INN).

iRTA: intelligent Robotic high-precision Treatment Application in rough terrain vineyards	Programme: **H2020** Start date: **01/05/2020** Duration: **18 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **20,000 €**

iRTA aims to build a smart spraying apparatus tailored to the intricacies of treatment application in rough and steep slope terrains and on cultivations of high variability between plants, as is the grape. To achieve this, iRTA will combine state-of-the-art technologies with features that fully adhere to the requirements of the usage setting and integrate them into a flexible robotic platform. Namely, iRTA will augment the robotic platform with sophisticated software for autonomous localisation, navigation and obstacle avoidance, in order to enhance its traversability and ensure its safe operation in rough environments with the simultaneous presence of human workers.

RADIO: Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing.	Programme: **H2020** Start date: **01/04/2015** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **770,000 €**

In RADIO, we develop an integrated smart home/assistant robot system, with the objective of pursuing a novel approach to acceptance and unobtrusiveness: a system where sensing equipment is not discrete but an obvious and accepted part of the user's daily life. By using the integrated smart home/assistant robot system as the sensing equipment for health monitoring, we mask the functionality of the sensors rather than the sensors themselves. In this manner, sensors do not need to be discrete and distant or masked and cumbersome to install; they do however need to be perceived as a natural component of the smart home/assistant robot functionalities.

BigDataEurope: Integrating Big Data, Software & Communities for Addressing Europe's Societal Challenges	Programme: **H2020** Start date: **01/01/2015** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **613,125 €**

BigDataEurope focuses on providing an integrated stack of tools to manipulate, publish and use large-scale data resources; tools that can be installed and used freely in a customised data processing chain with minimal knowledge of the technologies involved and integrating and industrially hardening key open-source Big Data technologies and European research prototypes into a Big Data Integrator Platform.

DataStories: Integrating Big Data, Software & Communities for Addressing Europe's Societal Challenges	Programme: **Google/Other international projects** Start date: **01/12/2018** Duration: **24 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **185,000 €**

DataStories seeks to provide a solution that will equip journalists with skills required for data journalism, enabling them to analyse flows of data and bring sense and structure to it. It will help to extract facts and insights, revealing the "hidden" stories that the data brings up, providing the context to support and shape journalist's future stories.

OpJ: Open Journalism	Programme: **Google DNI project** Start date: **13/10/2017** Duration: **12 months**	My role: **Project Coordinator** NCSR-D budget: **50,000 €**

Fake news emerges as an important problem for journalism and democracy, building on the growing loss of confidence in media. A potential solution could be to create more and better evidence-based stories that are supported by open data and readers can directly refer to original sources. OpJ will try to strengthen the re-usability of open data by journalists through the following toolkit: (a) Company name matching and advanced search in public procurement, (b) 1-click provenance to original data source and (c) News enrichment through data tags.

StoryBot: Automated workflows in news production towards robot-assisted journalism	Programme: **Google DNI project** Start date: **23/01/2017** Duration: **21 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **144,000 €**

StoryBot aims to provide an integrated platform for automated news production and presentation (publications). We propose the idea of a bot that: allows the creation of an editorial plan, with a list of topics of interest; collects and aggregates web content (including content from social media) in real time for each topic of interest; highlighting basic entities from each story; allows journalists to combine and edit content from various sources into a single story; publishes the news story in the format and channel chosen by the journalist.

YDS: Your Data Stories	Programme: **H2020** Start date: **01/02/2015** Duration: **36 months**	My role: **Scientific Coordinator** NCSR-D budget: **535,000 €**

YourDataStories brings an innovative solution whose innovation potential spreads across many directions from leveraging best practices and proven technologies across Europe, to exploiting the social Web for accessing citizens, and to supporting sustainable public services across borders. Building on top of the "Transparency Portal" initiative of the Greek government, YourDataStories can be viewed as a way to showcase and transfer the existing expertise to European level, in an attempt to transform governments and governance in Europe. At the same time, YourDataStories seeks to exploit and embed in this effort the benefits of the social Web, establishing an innovative bidirectional channel between the Social and Semantic Web. Finally, YourDataStories aims to support sustainable services, supported by a marketing ecosystem of applications offering cross-border services of public finance flows across Europe.

EU–Pri: An approach how to teach citizenship education in the prison	Programme: **Other European Projects** Start date: **22/06/2020** Duration: **12 months**	My role: **Scientific Lead for NCSR-D (Project Manager)** NCSR-D budget: **29,999 €**

EU – Pri aims to enrich the knowledge of adult students-inmates about civic and politic issues, and cultivate the appropriate skills, values and attitudes relative to their citizenship. The project will be implemented at the premises of a Second Chance School located in a prison in Athens and includes

the implementation of workshops with the use of technological sciences, like robotics, Artificial Intelligence and 5G Networks.

PREPARE: Innovative integrative tools and platforms to be prepared for radiological emergencies and post-accident response in Europe	Programme: **EU FISSION project – FP7** Start date: **01/02/2013** Duration: **36 months**	My role: **Scientific Lead for SKEL** NCSR-D budget: **290,000 €**

This project aims to close gaps that have been identified in nuclear and radiological preparedness following the first evaluation of the Fukushima disaster. It addresses the call Fission-2010-3.3.1: Update of emergency management and rehabilitation strategies and expertise in Europe. SKEL in cooperation with the Environmental Research Laboratory (EREL) and the Nuclear Research Reactor Laboratory (NRRL) developed the computational infrastructure for monitoring social media content and designed and implemented an ontology for nuclear and radiological incidents.

C2LEARN: Creative Emotional Reasoning Computational Tools Fostering Co-Creativity in Learning Processes	Programme: **EU ICT project – FP7** Start date: **01/11/2012** Duration: **36 months**	My role: **Technical Coordinator** NCSR-D budget: **650,158 €**

The C2Learn project aims to introduce an innovative digital gaming and social networking environment incorporating diverse tools, the use of which can foster co-creativity in learning processes in the context of both formal and informal educational settings. The C2Learn environment is an open-world "sandbox'' (non-linear) virtual space enabling learners to freely explore ideas, concepts, and the 'shared' knowledge available on the semantic web and the virtual communities in which they participate.

SEMAGROW: Data intensive techniques to boost the real-time performance of global agricultural data infrastructures	Programme: **EU ICT project – FP7** Start date: **01/11/2012** Duration: **36 months**	My role: **Scientific Coordinator** NCSR-D budget: **715,243 €**

SemaGrow developed: scalable and robust semantic storage and indexing algorithms; query decomposition, source selection, and distributed querying methods to implement a scalable and robust infrastructure for data service federation; and tested its components and overall architecture over real, complex, interconnected datasets comprising data and document collections, sensor data, and GIS data.

POSCON: Positive Online Content and Services for Children in Europe	Programme: **EU SAFER INTERNET thematic network project** Start date: **01/11/2012** Duration: **26 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **535,000 €**

The thematic network POSCON aimed at: exchanging good practices, issues and challenges in provision of online content to young children; discussing feasibility and requirements of a safe browser for kids / collation of white lists including suggestions on moderation and rating of websites for children; providing a report with overview on the market for positive content for children in Europe.

USEFIL: Unobtrusive Smart Environments for Independent Living	Programme: **EU ICT project – FP7** Start date: **01/10/2011** Duration: **36 months**	My role: **Scientific Lead for SKEL** NCSR-D budget: **725,519 €**

Although ICT technologies can increase safety, independence and quality of life of elderly people while staying at home the adoption rates of such advancements show that these are still undesired by the majority of the population. USEFIL project intends to cope with this gap proposing advanced but affordable in-home unobtrusive monitoring and web communication solutions. More specifically USEFIL intends to use low cost off-the-shelf technology to develop immediate applicable services that will assist the elderly in maintaining their independence and their daily activities. NCSR-D has the project management, involving CIL and SKEL from IIT.

NOMAD: Policy Formulation and Validation through non-moderated crowdsourcing	Programme: **EU ICT project – FP7** Start date: **01/01/2012** Duration: **36 months**	My role: **Technical Coordinator** NCSR-D budget: **508,463€**

The ability to leverage the vast amount of user-generated content for supporting governments in their political decisions requires new ICT tools that will be able to analyse and classify the opinions expressed on the informal Web, or stimulate responses, as well as to put data from sources as diverse as blogs, online opinion polls and government reports to an effective use. To this end, NOMAD aims to introduce these different new dimensions into the experience of policy making by providing decision-makers with fully automated solutions for content search, selection, acquisition, categorisation and visualisation that work in a collaborative form in the policy-making arena.

CPS: Medium: A Novel Human Centric System to Improve Motor/Cognitive Assessment and Enable Adaptive Rehabilitation	Programme: **USA NSF project** Start date: **15/09/2010** Duration: **36 months**	My role: **Scientific Lead for SKEL** NCSR-D budget: **60,000€**

The objective of this research is to develop methods and tools for a multimodal and multi-sensor assessment and rehabilitation game system called CPLAY for children with Cerebral Palsy (CP). CPLAY collects and processes multiple types of stimulation and performance data while a child is playing. The approach is to model the process as a cyber-physical system (CPS) feedback loop whereby data collected from various physical 3D devices (including fNIR brain imaging) are processed into hierarchical events of low-to-high semantic meaning that impact/ adjust treatment decisions. The project was coordinated by the University of Texas at Arlington (UTA). SKEL participated at UTA subcontractor in the context of our joint research program.

AVISPIRE: Audio-VIsual Speech Processing for Interaction in Realistic Environments	Programme: **FP7 - Marie Curie (International Reintegration Grants)** Start date: **01/10/2009** Duration: **42 months**	My role: **Project Coordinator** NCSR-D budget: **175,000 €**

AVISPIRE will work towards expanding the state-of-the-art in the topic of audio-visual speech processing from today's "toy" examples to realistic human-computer interaction in difficult, realistic

environments like the classroom, the automobile, multimedia streams of broadcasted news, and during meetings in smart rooms. Work will focus on both robust extraction of visual speech information, as well as its efficient fusion with the acoustic modality.

SYNC3: Synergetic Content Creation and Communication	Programme: **FP7-ICT** Start date: **01/04/2009** Duration: **36 months**	My role: **Participated in the design of the information extraction system** NCSR-D budget: **710,000 €**

SYNC3 will provide an intelligent framework for making more accessible the vast quantity of user comments on news issues. The project will structure the part of blogsphere that refers to running news stories, rendering it accessible, manageable and re-usable. The immediate target of SYNC3 is the news industry and social networks, but domains like commerce, tourism, e-science and business intelligence are likely to benefit from the resulting technology.

CASAM: Computer-Aided Semantic Annotation of Multimedia	Programme: **FP7-ICT** Start date: **01/04/2008** Duration: **36 months**	My role: **Participated in the design of the information extraction system and the annotation tools** NCSR-D budget: **831,850 €**

CASAM expects to facilitate the synergy of human and machine intelligence to significantly speed up the task of human-produced semantic annotation of multimedia content. The project will deal with the task of aggregating human and machine knowledge with the ultimate target of minimizing human involvement in the annotation procedure. Intelligent human-computer interaction is of central importance, and the concept of effort-optimized knowledge aggregation will be introduced. This as the task of reaching the desired result by requiring the least effort from the user.
Programme:

QUATRO Plus: Content Labels for User Empowerment	Programme: **European Union's Safer Internet Plus, eContent** Start date: **01/10/2007** Duration: **24 months**	My role: **Technical Coordinator** NCSR-D budget: **200,521 €**

Traditional quality labels and trustmarks are logos that are visible to humans but undetectable by machines. The original 2-year QUATRO project identified a demand for and the usefulness of interoperable, machine-readable quality labels; created a platform for their delivery and authentication; and developed two end-user tools. QUATRO Plus seeks to build on the work done and to extend its scope significantly, notably by allowing users to contribute to both the creation of labels and the trust that other users may put in them.

INDIGO: Interaction with Personality and Dialogue Enabled Robots	Programme: **FP6-IST Cognitive Systems** Start date: **01/02/2007** Duration: **30 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **223,260 €**

INDIGO aims to develop human-robot communication technology for intelligent mobile robots that operate and serve tasks in populated environments. In doing so, the project will involve technologies

from various sectors, and will attempt to introduce advances in respective areas, i.e. natural language interaction, autonomous navigation, visual perception, dialogue systems, and virtual emotions.

BOEMIE: Bootstrapping Ontology Evolution with Multimedia Information Extraction	Programme: **FP6-IST** Start date: **01/03/2006** Duration: **36 months**	My role: **Lead of Information Extraction and Ontology Enrichment Team** NCSR-D budget: **1,435,224.00 €**

The BOEMIE project proposes a bootstrapping approach to knowledge acquisition, which uses multimedia ontologies for fused extraction of semantics from multiple modalities, and feeds back the extracted information, aiming to automate the ontology evolution process. BOEMIE methodology BOEMIE advocates an ontology-driven multimedia content analysis (semantics extraction from images, video, text, audio/speech) through a novel synergistic method that combines multimedia extraction and ontology evolution in a bootstrapping fashion.

MedIEQ: Quality Labeling of Medical Web Content using Multilingual Information Extraction	Programme: **DG SANCO – eHealth** Start date: **01/01/2006** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **324,802 €**

Based upon state-of-the-art technology in the areas of web crawling and spidering, multilingual information extraction, semantic resources and quality labelling, MedIEQ will pave the way towards the automation of quality labelling process in medical web sites. MedIEQ will deliver tools that crawl the Web to locate medical web sites in seven different European languages (Spanish, Catalan, German, English, Greek, Czech, and Finnish) in order to verify their content using a set of machine-readable quality criteria.

OntoSum: Ontology Management and Use to Support Summarization	Programme: **PENED Programme, 2003** Start date: **01/12/2005** Duration: **36 months**	My role: **Project Coordinator** NCSR-D budget: **115,696 €**

The OntoSum project is funded by the Greek government and supports three PhD students working on the following subjects:

- Ontology Learning from textual content and data bases.
- Ontology Coordination
- Ontology-based Multi Document Summarisation.

SHARE: Mobile support for rescue forces, integrating multiple modes of interaction	Programme: **FP6-IST** Start date: **01/11/2004** Duration: **36 months**	My role: **Participation on the Design of Ontology Management System** NCSR-D budget: **445,150 €**

SHARE aims to develop a new type of advanced mobile service, called Push-To-Share, to support mobile content sharing by the participants of field operational teams, such as fire rescue forces. Push-To-Share is an innovative extension of the commonly used Push-To-Talk technology and

provides a new concept for simple ways of complex communication, combining an easy-to-use interface with a comfortable delivery of multimedia content

QUATRO: Quality Assurance and Content Description	Programme: **European Union's Safer Internet Programme** Start date: **01/11/2004** Duration: **24 months**	My role: **Responsible for SKEL tools design and development** NCSR-D budget: **118,519 €**

The Quatro project is applying semantic web technologies to trust-mark schemes and quality labels. Drawing on past and original research, the project has defined a vocabulary that can be used by any trust-mark scheme and a technical platform to deliver the trust-marks in a format that can be processed by semantic web agents.

CROSSMARC: Cross-lingual Multi-agent Retail Comparison	Programme: **Human Language Technologies, Information Society Technologies (5th FP)** Start date: **01/01/2001** Duration: **30 months**	My role: **Deputy project coordinator, WP3 Leader** NCSR-D budget: **847,264 €**

Development of technology for web content analysis. CROSSMARC technology was examined in four languages (Greek, English, Italian, and French), and two application domains (laptop offers, job offers). CROSSMARC developed an infrastructure that facilitates the integration of new tools and the adaptation to new domains.

Web-C-Mine: Web usage mining from proxy/cache server logs	Programme: **Bilateral Cooperation Greece-Cyprus (2001-2003)** Start date: **01/01/2001** Duration: **24 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **8,780 €**

Development of technology for processing large-scale usage data collected by Internet Service Providers (ISP), in order to discover knowledge from these data. This knowledge is used to model the ISP users.

Participation in the implementation of projects before 2001

SCOFI (Filtering the Internet by use of a Smart card). Ευρωπαϊκό έργο IAP (2001-2003)
SCOFI developed a system for filtering web pages containing harmful content for children. The system is based on smart cards technology and exploits techniques for multimedia content analysis.

Role: Participation in the design of the information filtering system.

M-PIRO (Multi-lingual Personalised Information Objects). IST (2000-2003)
The M-PIRO project developed state of the art techniques and tools in natural language generation, speech synthesis, user modelling, and their interaction with adaptive hypermedia and virtual reality systems. The project built on existing museum collection information database systems and utilised the information management and design expertise from the museum partners. The M-PIRO software creates descriptions of museum artefacts automatically, using information stored in a database. Children, adults and experts all receive slightly different, personalised, descriptions.

Role: Participation in the design of language tools and resources of the natural language generation system, in the design of the authoring tool developed for creating and maintaining the common descriptions database.

ADIET (Adaptive Information Extraction Technology). Bilateral Cooperation Greece-France (1999-2001)
Development of a tool for the customization of Named-Entity Recognition Systems in different languages, with the use of Machine Learning methods. The collaboration with the French ICDC company was crucial for the success of the CROSSMARC proposal

Role: Responsible for coordination of all the project tasks

ANET (Adaptive Named-Entity Recognition Technology). Bilateral Cooperation Greece-Italy (1999-2001)
Development of a Named-Entity Recognition System for Greek, Italian and English, using Machine Learning methods.

Role: Responsible for coordination of all the project tasks

GIE (Greek Information Extraction). Έργο διακρατικής συνεργασίας Ελλάδας – Μ. Βρετανίας (1997-1999)
In GIE NCSR and Sheffield worked for the development of a prototype named entity recogniser for the Greek language and for the domain of management succession events. They also developed tools to facilitate the customisation of named entity recognition in new domains for both English and Greek languages.

Role: Scientific supervision for the development of named entity recognition modules and machine learning techniques.

ECRAN (Extraction of Content: research at near-market)
Language Engineering (1995-1999)
ECRAN advances a key research technology and is a first step towards the personal newspaper and the active e-mail system, long awaited to deal with information overload on citizens with electronic access. ECRAN outcomes led to further funding from the MITOS, AUTONOMA, CROSSMARC, ANET, and ADIET projects.

Role: Scientific supervision of the development of tools for adapting information extraction tools in new domains and of the user modelling system integrated with the ECRAN information extraction platform.

GLOSSASOFT: Methods and Guidelines for Interlinguality in Software Constraction.
Telematics-Language Research Engineering (1993-1995)
The objectives of the project were: to produce guidelines for the internationalization of new and existing software applications; produce guidelines, methods and to specify tools for the localization of internationalized software applications; apply these results on several case studies; promote the adoption of its results by relevant organisations/associations and IT companies. GLOSSASOFT results were recorded in a book titled “Software without Frontiers”.

Participation in the methodological design, and the provision of internationalisation and localisation guidelines. Responsible for developing an application for multilingual dynamic generation of diagnostic and informative messages in software.

A System for Knowledge Extraction from Texts – PAVE Project
INFOGROUP S.A. (1992)

Role: Implementation of the knowledge extraction system

5.3.2 National projects

Out of this list of national projects, I would like to stress three of the recently completed ones (as of 2023):

- **House of Classical Greek Ideas/AITHERION**: The aim of the project has been to create the House of Classical Greek Ideas, a model exhibition on Greek ideas and ancient Greek philosophy -the greatest cultural achievement of ancient Greeks and a worldwide cultural legacy. The exhibition is housed in the building of the Athens Conservatoire and can be combined with a visit to the adjacent archaeological site of Aristotle's Lyceum.
- The flagship action on **Precision Medicine** has contributed the computational infrastructure to the on-going flagship action for **SARS-CoV-2**. The resulting infrastructure will be maintained and extended through coming national projects on precision medicine.
- The national research infrastructure for digital humanities and language technology **Apollonis**; this is the national part of the relevant European research infrastructures DARIAH and CLARIN.

Smart Subs: Subtitling app for watching live performances	Programme: **National Project** Start date: **30/09/2021** Duration: **26 months**	My role: **Lead for NCSR-D** NCSR-D budget: **261,945 €**

The aim of the project was to develop and improve the existing know-how / technology and applications of language recognition and sentence tagging as well as to develop and promote research to synchronize live oral performances (sound) and written subtitles to develop an application for "smart wearable glasses", which will allow subtitles to be displayed on smart-glasses in theatrical performances and generally live cultural activities. The application creates an innovative way of providing subtitles in live performances that provides uninterrupted viewing of the performance and enhances the viewer's experience compared to hitherto solutions. It is addressed to deaf / hard of hearing and the elderly, making cultural content accessible to people with hearing problems through Greek subtitles in order to combat social exclusion. Cultural content will also be made accessible to foreign-language audiences through subtitles in different languages at the same time, thus contributing to the promotion of the cultural heritage and the further development of the touristic product. The application can be used with the same technical requirements in different locations (outdoor and indoor theatres, dome theatres etc).

SARS-CoV-2: Flagship Action for SARS-CoV-2. Epidemiological study in Greece	Programme: **National Project** Start date: **01/05/2020** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **160,000 €**

The Flagship Action for SARS-CoV-2 will carry out an epidemiological study in Greece through extensive virus and antibody detection campaigns, viral genome sequencing, and patients' genome

sequencing. NCSR “Demokritos” and ATHENA Research Centre collaborate on the sub-project that develops the computational infrastructure needed to: (a) store and process sequencing data, supporting the efficient execution of bioinformatics workflows designed and implemented in other sub-projects, and (b) integrate and correlate this data with patients’ demographic and clinical data. This infrastructure will serve the needs of the scientific community to analyse large-scale genomic and clinical data of Greek patients and study their correlation with the risk of the disease, drug efficacy, and other factors. The infrastructure will be designed based on provisioning and containerization technologies that enable seamless installation and scalable execution in modern computing infrastructures (Kubernetes, Docker, distributed file system). The sub-project will also deal with issues of data collection, disposal and organisation in a way that data protection and GDPR compliance are enforced without compromising data service quality.

DebateLab: From Linked Data to Linked Arguments	Programme: **National Project** Start date: **01/01/2020** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **51,065€**

The Web is transforming rapidly from a Web of information to a Web of Opinions, where people upload their viewpoints, ratings and comments on any conceivable topic. Unfortunately, this plethora of opinions and the corresponding arguments are effectively lost; the arguments are not uploaded as machine- processable data, they are not interlinked, and it is extremely difficult for Web users to find arguments related to a particular subject, let alone to evaluate them.
DebateLab aims to conduct basic and applied research towards developing the theoretical framework for representing, mining and reasoning with online arguments. Exploiting progress in the fields of Knowledge Representation and Reasoning, Semantic Web, Natural Language Processing, Information Retrieval and Machine Learning, this project aims to pave the way for a new Web paradigm, a modern agora, where the different types of arguments and human deliberation can be amenable to machine-interpretable representation and algorithmic processing. While the basic research will progress in a domain independent manner, the applied research will focus on the domain of e-Journalism, in order to produce exploitable outcome of both theoretical and practical value. DebateLab will be conducted at FORTH-ICS in collaboration with SKEL-NCSR “Demokritos”, by a balanced consortium comprising senior, principal and postdoctoral researchers, PhD students and a software engineer.

NAVMAT: Knowledge based System for naval materials failures	Programme: **National Project** Start date: **01/03/2020** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **13,500 €**

The proposed work is intended to develop a knowledge based system for the support of decision making and knowledge management of Naval Materials (NAVMAT) failures. The objective is to establish a new process in which the scientific and technical staff involved in fleet operations and maintenance will share in an effective and efficient way, feed, access and assess information from various sources (data, images, reports, opinions), all associated with failure of materials, components and systems operating primarily in a marine environment.

House of Classical Greek Ideas	Programme: **National Project** Start date: **01/09/2019** Duration: **44 months**	My role: **Coordinator of NCSR-D sub-projects** NCSR-D budget: **1,401,431 €**

The aim of the project is to create the House of Classical Greek Ideas, a model exhibition on Greek ideas and ancient Greek philosophy -the greatest cultural achievement of ancient Greeks and a worldwide cultural legacy. The exhibition will be housed in the building of the Athens Conservatoire and can be combined with a visit to the adjacent archaeological site of Aristotle's Lyceum. The development of the interactive exhibits will employ an innovative method of 'ideas representation' with the aim of presenting them in an attractive and accessible way for the general public. The project will utilize cutting-edge technologies such as interactive digital walls, augmented reality applications and applications that use artificial intelligence as part of the interaction with the visitor. The exhibition will target different types of visitors such as tourists and school students. NCSR D has undertaken Subproject 1 "Illustration of Classical Greek Ideas" which includes: the development and evaluation of the "ideas illustration" methodology, the collection and classification of material based on specially formulated ontology, the creation of an extensible content management system, the implementation and evaluation of pilot exhibitions, the dissemination and exploitation of project results.

EN.I.R.I.S.S.T.: Intelligent Research Infrastructure for Shipping, Supply chain, Transport and Logistics	Programme: **National Project** Start date: **01/04/2019** Duration: **47 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **98,625 €**

EN.I.R.I.S.S.T. is a unique and pioneering Research Infrastructure that aims to fill a significant existing research gap in the fields of Shipping, Supply Chain and Transport in Greece. It combines the collection and processing of data (with the aim of protecting privacy and copyright), the development of innovative models and programming techniques, the development of useful applications, secure and user-friendly, and finally the development of digital observatories aimed at support for public and private stakeholders (businesses, public bodies, research organisations, etc.). In this way, the vision of EN.I.R.I.S.S.T. is to become a centre of excellence that will promote and support research in its scientific fields.

Hellenic Network for Precision Medicine, Subproject 5: "Infrastructures, Tools, and Systems for Organisation, Processing, and Analysis of Biomedical Data"	Programme: **NSRF / National Project** Start date: **22/08/2018** Duration: **36 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **197,500 €**

The project will design and develop the IT infrastructure and the software tools to collect, process and analyse biomedical data in order to support the standardisation, and the effective and efficient execution of sequence analysis and diagnostic workflows performed in Precision Medicine Units (PMU) in Greece. Moreover, the project will design and develop tools to support tasks related to clinical diagnosis, as well as to support administration tasks in PMUs.

APOLLONIS: National infrastructure for Digital Humanities and Language Technology	Programme: **NSRF / National Project** Start date: **01/11/2017** Duration: **48 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **240,000 €**

Exploiting the results of a series of previous projects, such at the Clarin-el national infrastructure, SentIMAGi, YourDataStories, BigDataEurope, SKEL will maintain and upgrade existing web services for language processing, will develop visualization services, collaborative text annotation services, web-based services for storing, indexing and searching in text repositories, and will validate these services in pilot applications for the analysis of open and linked data.

SentIMAGi: Brand monitoring and reputation management via multi-modal sentiment analysis	Programme: **NSRF / National Project** Start date: **01/07/2014** Duration: **15 months**	My role: **Scientific Coordinator** NCSR-D budget: **155,628 €**

SentIMAGi created a brand monitoring and reputation management framework, exploiting multi-modal sentiment analysis methods and summarization. The aim of the framework is to provide an efficient but complete view of the public sentiment towards different aspects of a brand. We break the text-only barrier by fusing the in-formation conveyed via textual and visual content under a unified analysis methodology. SentI-MAGi also applies summarization and text mining techniques to provide efficient yet complete reports through intuitive visualizations.

AMINESS*:* Analysis of marine information for environmentally safe shipping	Programme: **GSRT/Ministry of Development - National project** Start date: **01/05/2013** Duration: **26 months**	My role: **Scientific Lead for SKEL** NCSR-D budget: **300,000€**

The project objective was the development of a web portal offering access to ship owners, policy makers and the scientific community, to (a) suggest vessel and environmentally optimal safe route planning (b) deliver real-time alerts for ships and (c) support policy recommendations. The portal is based on historical and real-time maritime data, including real-time information for ship position and speed, weather and sea forecasting and land and sea location. NCSR-D, through CIL and SKEL labs, coordinated the project.

CLARIN-EL: CLARIN ATTIKI – Support and development of Greek partners for the participation in the European Research Infrastructure Consortia	Programme: **NSRF / National Project** Start date: **01/11/2012** Duration: **35 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **199,766.71€**

CLARIN-EL is the national Research Infrastructure on language technology. Its objective was the creation of software for the storage and disposal of Language Resources and Technologies, conversion of Language Resources and Technologies aimed at interoperability, description / documentation of Language Resources and Technologies according to the agreed metadata schema, list of available Language Resources and Technologies. SKEL was responsible for the design and implementation of the infrastructure of the Language Technologies, including the local repository of the language tools, their web services and their Web UI.

CLARIN-EL-PREP (CLARIN-EL Preparatory phase)	Programme: **NSRF / National Project** Start date: **2011** Duration: **12 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **7,875 €**

This is the preparation stage for the design of the national research infrastructure on language technology, being part of the European research infrastructure CLARIN.

XENIOS Human-robot interaction using speech processing, natural language generation, and computer vision	Programme: **NSRF / National Project** Start date: **13/06/2006** Duration: **18 months**	My role: **Scientific Lead for NCSR-D** NCSR-D budget: **63,500 €**

Participation in the implementation of projects before 2001

MITOS: Document filtering, information extraction and data-mining applied to financial news
National EPET Project (1999-2001)
MITOS addressed the problem of information overload by developing a system able to filter and extract information from electronic news articles, as well as to discover new knowledge implicitly stored in databases. The system was tested with news and data from the Greek financial market.

Role: Deputy coordinator, WP8 leader (information extraction module)

SCHEMATOPOIESIS - Integrated environment for the development and exploitation of Greek controlled languages
National EPET Project (1999-2001)
SCHEMATOPOIESIS developed the first Greek prototype style checker to assist Greek technical writers as well as to facilitate translation from Greek to other languages. The project covered technical documents from the domain of computational equipment.

Role: Responsible for the design and development of linguistic tools and resources, development of the authoring MS-Word plugin

AUTONOMA: Automatic Acquisition of Named-Entity Recognition Grammars for Greek
Use of grammar induction methods for the acquisition of Named-Entity grammars in Greek.

Role: Participated in the design and development of the symbolic machine learning methodologies.

Localisation of HP Visual User Environment (VUE). HP Tender, 1995

Role: Development of the bilingual term database for the product

DEMOKRITOS

INSTITUTE OF INFORMATICS & TELECOMMUNICATIONS

6. Education Activities

Curriculum Vitae
Athens, February 2025

6. Education Activities

As presented in section 3.2, I have been actively involved in various education activities (I was responsible for IIT education issues from 2008 till 2019):

- Organisation of joint PhD programmes with Greek and foreign Universities
- Organisation of joint MSc programmes with Greek Universities
- Organisation of abroad programmes and international summer schools
- Organisation of educational programmes for schools

In addition to the above activities/initiatives, I participated in the lecturing of various MSc courses for several years, and I supervised many doctoral, post-graduate and graduate theses and internships. These are presented below.

MSc Courses Lectures

- Cross-institute M.Sc. programme "Informatics in Medicine and Biology", University of Athens, Technical University of Athens, Academy of Athens, NCSR "Demokritos", 2015 – 2018: **Management of Biomedical Databases – 2nd Semester** (with G. Petasis and A. Krithara)
- M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA, 2009: **Information Extraction – 3rd Semester, Natural Language Generation – 4th Semester**
- M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA, 2006: **Natural Language Generation – 4th Semester, Information Extraction – 3rd Semester**
- M.Sc. Programme «Technoglossia III», University of Athens in collaboration with NTUA, 2004: **Information Extraction – 3rd Semester**
- M.Sc. Programme «Technoglossia II», University of Athens in collaboration with NTUA, 2003: **Natural Language Generation – 4th Semester, Information Extraction – 3rd Semester**
- M.Sc. Programme «Technoglossia I», University of Athens in collaboration with NTUA, 2001: **Natural Language Generation – 4th Semester**

Supervision of PhDs, (Post-) Graduate Theses and Internships

Supervision of PhDs (the ones where I served solely as a member of the supervising committee are not included)

1) Davettas Athanasios, **«Deep learning for combining heterogeneous data»**, Supervisors: V. Karkaletsis, I.A. Klampanos. In collaboration with the Informatics & Telecommunications Department, University of the Peloponnese, and DANAOS under the Stavros Niarchos Foundation Industrial Scholarship Programme (completed in 2021)

2) Pittaras Nikofors, **«Beyond Deep Learning»**, Supervisors: V. Karkaletsis, G. Giannakopoulos. In collaboration with the Informatics & Telecommunications Department, University of Athens, and ATC under the Stavros Niarchos Foundation Industrial Scholarship Programme (completed in 2021)

3) Papacostas Michail **«Deep learning and machine learning applications for user-behavior modeling & monitoring»**, Supervisor: V. Karkaletsis. In collaboration with the Computer Science & Engineering Department, University of Texas at Arlington (UTA), "Demokritos" international fellowship PhD program (completed in 2019)

4) Tsiakas Constantine **«Interactive Learning and Adaptation for Personalized Robot-Assisted Training»**, Supervisor: V. Karkaletsis. In collaboration with the Computer Science & Engineering Department, University of Texas at Arlington (UTA), joint PhD programme ("Demokritos" international fellowship PhD program) (completed in 2018)

5) Papaggelis Alexandros, **«Adaptive Dialogue Systems»**, Supervisor: V. Karkaletsis. In collaboration with the Computer Science & Engineering Department, University of Texas at Arlington (UTA), "Demokritos" international fellowship PhD program, (completed in 2013)

6) Rentoumi Vassiliki, **«Sentiment Analysis on Metaphorical Languages»**, Supervisor: V. Karkaletsis. In collaboration with the University of the Aegean, Department of Information and Communication Systems Engineering (G. Vouros) (completed in 2012)

7) Spiliopoulos Vassilis **«Automatic Ontology Coordination»**. Supervisor: V. Karkaletsis. In collaboration with the University of the Aegean, Department of Information and Communication Systems Engineering (G. Vouros) (completed in 2009)

8) Giannakopoulos Georgios **«Automatic Summarisation from Multiple Documents»**. Supervisor: V. Karkaletsis. In collaboration with the University of the Aegean, Department of Information and Communication Systems Engineering (G. Vouros) (completed in 2009)

9) Valarakos Alexandros **«Ontology Creation using Machine Learning»**. Supervisors: Κ.Σπυρόπουλος, V. Karkaletsis. In collaboration with the University of the Aegean, Department of Information and Communication Systems Engineering (G. Vouros) (completed in 2009)

10) Afantenos Stergios, **«Automatic Document Summarisation»**. Supervisor: V. Karkaletsis. In collaboration with the University of Athens, Department of Informatics and Telecommunications (P. Stamatopoulos) (completed in 2006)

Supervision of (Post-) Graduate Theses

1) Pontiki Maria, M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA. Topic: «**Μέθοδοι εκτίμησης συναισθήματος που εκφράζει ένα κείμενο για συγκεκριμένες οντότητες**» (V. Rentoumi, V. Karkaletsis) (completed)

2) Florou Eirini, M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA. Topic: «**Μηχανική μάθηση μοντέλων κατηγοριοποίησης κυρίων ονομάτων**» (S. Konstantopoulos, V. Karkaletsis) (completed)

3) Balli Sofia, M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA. Topic: «**Μηχανική μάθηση μοντέλων κατηγοριοποίησης τοπωνυμίων**» (S. Konstantopoulos, V. Karkaletsis) (completed)

4) Mokios Parmenion, Department of Informatics, Technical University of Athens. Supervisor: I. Karanikolas. Topic: «**Τεχνικές μέτρησης της αξιοπιστίας χρηστών του κοινωνικών δικτύων (social networks)»** (V. Karkaletsis) (completed)

5) Kouroupas Nikolaos, Department of Informatics & Telecommunications, University of Athens. Topic: **«Εκμάθηση στρατηγικών διαλόγου σε πραγματικό χρόνο για προσαρμοζόμενα διαλογικά συστήματα»** (V. Karkaletsis & A. Papaggelis) (completed 2012)

6) Papantoniou Katerina, University of Athens M.Sc. Programme, Department of Informatics & Telecommunications. Supervisor: M. Koumparakis. Topic: **«Απάντηση ερωτήσεων χρησιμοποιώντας τα αποτελέσματα μιας μηχανής αναζήτησης»** (V. Karkaletsis) (completed 2011)

7) Aggelou Epaminondas, Papapostolou Ioannis, M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA). Topic: **«Διαχωρισμός διαλόγων σε ροές μηνυμάτων, όπως chat rooms»** (V. Karkaletsis) (completed)

8) Tsoumas Alexandros, ΣΕΜΦΕ, NTUA, Topic: **«Κατηγοριοποίηση κειμένων με βάση το συγγραφέα ή το ύφος με χρήση γράφων ν-γραμμάτων»** (V. Karkaletsis) (completed 2009)

9) Tegos Athanasios, Τμήμα Μηχανικών Η/Υ, Πολυτεχνείο Κρήτης. Supervisor: Α. Ποταμιάνος. Topic: «**Εξαγωγή πληροροφίας με χρήση οντολογιών και τεχνικών συμπερασμού»** (V. Karkaletsis) (completed 2009)

10) Karanikas Thomas, Diamantopoulou Georgia, Kostopoulou Eirini, Department of Informatics, Technical University of Athens. Supervisor: Χ. Σκουρλάς. Topic: «**Ανάπτυξη διαλογικού συστήματος»** (V. Karkaletsis) (completed 2007)

11) Theologou Maria, M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA. Topic: **«Αναπαράσταση και διαχείριση OWL Οντολογιών»** (V. Karkaletsis) (completed 2007)

12) Antonopoulou Faii, M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA. Topic: **«Παραγωγή φυσικής γλώσσας με χρήση οντολογιών που εμπλουτίζονται δυναμικά»** (V. Karkaletsis) (completed 2007)

13) Tsarouhas Demetrios, M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA. Topic: **«Προσβασιμότητα στον Παγκόσμιο Ιστό»** (V. Karkaletsis) (completed 2007)

14) Rentoumi Vassiliki, M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA. Topic: **«Χαρακτηρισμός περιεχομένου ιστοσελίδων»** (V. Karkaletsis) (completed 2007)

15) Bilidas Demetrios, Computer Science Department, University of Piraeus. Supervisor: T. Panagiotopoulos. Topic: **«Χρήση OWL οντολογιών για παραγωγή φυσικής γλώσσας»** (V. Karkaletsis) (completed 2006)

16) Kallonis Spyridon, Department of Informatics, Athens University of Economics & Business. Supervisor: I. Androutsopoulos. Topic: **«Χρήση υπαρχουσών οντολογιών και βάσεων δεδομένων στο σύστημα παραγωγής φυσικής γλώσσας του έργου M-PIRO»** (V. Karkaletsis) (completed 2005)

17) Salapata Maria, Liontou Konstantina, M.Sc. Programme «Technoglossia III», University of Athens in collaboration with NTUA). Topic: **«Παραγωγή εξελικτικών περιλήψεων με χρήση διακειμενικών σχέσεων»** (V. Karkaletsis, Σ.Αφαντενός) (completed 2005)

18) Argiri Eleni, M.Sc. Programme «Technoglossia III», University of Athens in collaboration with NTUA. Topic: **«Υφολογική Κατηγοριοποίηση Κειμένων»** (V. Karkaletsis, Γ. Μικρός) (completed 2005)

19) Bebi Irene, M.Sc. Programme «Technoglossia III», University of Athens in collaboration with NTUA. Topic: **«Χρήση Συστεμικών Λειτουργικών Γραμματικών στην Παραγωγή Φυσικής Γλώσσας (Ελληνικά)»** (V. Karkaletsis) (completed 2005)

20) Stamatiou Georgios University of the Aegean, Department of Information and Communication Systems Engineering. Supervisor: G. Vouros. Topic: **«Εντοπισμός χρονικών εκφράσεων και αξιοποίησή τους στην παραγωγή εξελικτικών περιλήψεων»** (V. Karkaletsis) (completed 2005)

21) Koumaris Nikolaos, Maragos Stefanos, Department of Informatics & Telecommunications, University of Athens. Supervisor: P. Stamatopoulos. Topic: **«Αναγνώριση ονομάτων οντοτήτων με χρήση μηχανικής μάθησης»** (V. Karkaletsis) (completed 2005)

22) Kappelou Eleni, Doura Irini, M.Sc. Programme «Technoglossia II», University of Athens in collaboration with NTUA. Topic: **«Παραγωγή περιλήψεων από πολλά έγγραφα με χρήση διακειμενικών σχέσεων»** (V. Karkaletsis, Σ.Αφαντενός) (completed 2004)

23) Rapti Alexandra, Panagiotopoulou Niki, M.Sc. Programme «Technoglossia II», University of Athens in collaboration with NTUA). Topic: **«Παραγωγή φυσικής γλώσσας με χρήση ενδοκειμενικών σχέσεων»** (V. Karkaletsis) (completed 2004)

24) Nassiou Constantine, Department of Informatics, University of Athens. Supervisor: Π. Σταματόπουλος. Topic: **«Επέκταση εργαλείου συγγραφής προτύπων εξαγωγής πληροφορίας»** (V. Karkaletsis) (completed 2003)

25) Koutsias Ioannis, Deparment of Informatics, University of Athens. Supervisor: P. Stamatopoulos. Topic: **«Αναγνώριση Ονομάτων Οντοτήτων για την Ελληνική γλώσσα»**. (V. Karkaletsis) (completed 2003)

26) Gregoriadis Alexandros, **«Μηχανική Μάθηση για την Αποσαφήνιση Εννοιών Λέξεων»**, Τμήμα Μηχανικών Η/Υ και Πληροφορικής, Παν/μιο Πατρών (G. Paliouras, V. Karkaletsis) (2001)

27) Sakkis Georgios, **«Αυτόματη Κατάταξη Μηνυμάτων Ηλεκτρονικού Ταχυδρομείου σε Κατηγορίες»**, Department of Informatics, University of Athens, 2001 (G. Paliouras, V. Karkaletsis) (2001)

28) Malaveta Victoria, **«Μοντελοποίηση Χρηστών και Μηχανική Μάθηση»**, Computer Science Department, University of Piraeus (G. Paliouras, V. Karkaletsis) (1998)

Supervision of Internships

1) G. Mouchakis, Department of Informatics, AUEB. Supervisors: V. Karkaletsis, P. Karampiperis. Topic: «Αναγνώριση γεγονότων από πολυμεσικά δεδομένα - συμμετοχή στην ανάπτυξη authoring tool με χρήση τεχνολογίας βάσεων δεδομένων». (completed 2011)

2) E. Tsoupros, Department of Informatics, Technical University of Athens. Supervisors: V. Karkaletsis, P. Karampiperis. Topic: «Αναγνώριση γεγονότων από πολυμεσικά δεδομένα -

συμμετοχή στην ανάπτυξη authoring tool με χρήση τεχνολογίας βάσεων δεδομένων». (completed 2011)

3) N. Sampanis, Department of Informatics, AUEB. Supervisors: V. Karkaletsis, S. Konstantopoulos. Topic: «Αξιολόγηση περιλήψεων, Επεξεργασία RDF δεδομένων». (completed 2011)

4) I. Sotiropoulos, M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA. Supervisors: Ε. Σπυροπούλου, V. Karkaletsis.Topic: «Επισημείωση σώματος κειμένων για εφαρμογή στην ανάλυση συναισθήματος»,

5) M. Alexandropoulou, M.Sc. Programme «Technoglossia V», University of Athens in collaboration with NTUA. Supervisors: V. Rentoumi, V. Karkaletsis.Topic: «Μελέτη επίδρασης φαινομένων μεταφοράς και επέκτασης στην ανάλυση συναισθήματος»,

6) P. Mokios, Department of Informatics, Technical University of Athens. Supervisor: V. Karkaletsis. Topic: «Αξιοπιστία χρηστών κοινωνικών δικτύων (social networks)».

7) E. Kostopoulou, Department of Informatics, Technical University of Athens. Supervisor: V. Karkaletsis. Topic: Αναγνώριση ονομάτων οντοτήτων σε ιστοσελίδες, κατηγοριοποίηση ιστοσελίδων.

8) T. Karanikas, Department of Informatics, Technical University of Athens. Supervisor: V. Karkaletsis. Topic: Εστιασμένη αναζήτηση πληροφορίας.

9) V. Rentoumi, A. Papagiannopoulou, D. Tsarouhas. M.Sc. Programme «Technoglossia IV», University of Athens in collaboration with NTUA. Supervisors: V. Karkaletsis, C. Chandrinos. Topic: Κριτήρια χαρακτηρισμού ιστοχώρων σε σχέση με την προσβασιμότητα σ' αυτόν: W3C's Web Accessibility Initiative (WAI)

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DEMOKRITOS

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7. Publications

Curriculum Vitae
Athens, February 2025

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DEMOKRITOS

INSTITUTE OF INFORMATICS & TELECOMMUNICATIONS

8. Scientific Recognition

Curriculum Vitae
Athens, February 2025

8. Scientific Recognition

National Boards

Since October 2023 I am a member of the High-Level Advisory Committee for Artificial Intelligence (AI) to the Prime Minister of Greece and since June 2024 I am the Greek Representative to the European AI Board.

Additionally, I served as a member of the National Council for Research, Technology and Innovation (ESETEK) for three years (December 2019 - December 2022).

Furthermore, since April 2021, I have been a member of the National Committee for Bioethics & Technoethics (the Committee duty is for 4 years, 04/2021 – 04/2025).

I had a coordinating role in the Board setup by the Ministry of Digital Governance for the formulation and operationalisation of the Hellenic National Strategy for Artificial Intelligence (10/2020 – 01/2021).

International Scientific Journals

Editorial Board Member:

Computer Speech & Language (till April 2024)

Computational Intelligence Journal (till April 2022)

Guest Editor in Special Issues:

- Health Informatics Journal
- Journal of Artificial Intelligence in Medicine.
- International Journal of Oncology Reports
- Applied Artificial Intelligence

Reviewer in International Scientific Journals, such as:

- ACM Transactions on Information Systems
- Journal of Systems and Software
- Information Sciences
- Journal of Artificial Intelligence Tools
- Pattern Analysis & Applications
- Journal of Natural Language Engineering.

- Journal of Artificial Intelligence in Medicine.
- Applied Artificial Intelligence
- The Computer Journal
- Data & Knowledge Engineering
- Journal of Intelligent Information Systems
- Journal of Pattern Recognition Research

Citations

More than 6100 citations with h-index 36 and i-index 109 according to Google Scholar.

Chair, Committee Member in International and National Conferences

1. Co-organiser of the AthNLP 2024 Summer School, 19-25 September 2024 at NCSR-D (https://athnlp.github.io/2024/)
2. Co-organiser of the IS-ENES3 Summer School on Data Science for Climate Modelling, 1-7 September 2022 at NCSR-D (https://www.iit.demokritos.gr/is-enes-summer-school/)
3. Co-organiser of the AthNLP 2019 Summer School, 18-25 September 2019 at NCSR-D (http://athnlp2019.iit.demokritos.gr/)
4. Chair of the AI4EU Ecosystem Development Forum, in the context of the H2020 AI4EU project, 21-22 November 2019, Athens (https://www.iit.demokritos.gr/newsevents/the-ai4eu-event-ai-ecosystem-development-forum-was-successfully-held-in-athens/)
5. Co-chair, IEEE Workshop on Spoken Language Technology, Athens, 18-21 December 2018 (http://www.slt2018.org/)
6. Co-organiser of BDE Workshop "SC5 Climate Workshop", Brussels, Belgium, 11/10/2016.
7. Co-organiser of Big Data in Secure Societies -1st Workshop, Brussels, Belgium, 30 September 2015 (http://www.big-data-europe.eu/event/sc7-brussels-2015/)
8. Organiser of the International Research-Centred Summer School in Cognitive Systems and Interactive Robotics, Data and Content Analytics (IRSS-2014), 3-30 July 2014.
9. Co-organiser of the 2nd SemaGrow Hackathon, NCSR-Demokritos, 4-7 July 2014
10. Co-organiser of Safer Internet Day Event, NCSR “Demokritos”, 11 February 2014
11. Steering and Program Committee of the 7th International Conference on PErvasive Technologies Related to Assistive Environments (PETRA 2014), Rhodes, 27-30/05/2014
12. Program Committee of the Workshop on Language Technology for Cultural Heritage, Social Sciences, and Humanities (LaTeCH 2014), in conjunction with EACL 2014, Gothenburg /Sweden, 26-30 April 2014
13. Organiser of the International Research-Centered Summer School in Cognitive Systems and Interactive Robotics, Social Media and Digital Preservation (IRSS-2013), 4-31 July 2013.

14. Steering and Program Committee of the 6th International Conference on PErvasive Technologies Related to Assistive Environments (PETRA 2013), Rhodes, 28-31/05/2013
15. Scientific Committee of the 1st International Summer School on Open & Collaborative Governance, in conjunction with the 4th Samos Summit 2013 on Digital Innovation for Government, Business and Society, Samos, 1-6 July 2013
16. Program Committee of the Workshop on Language Technology for Cultural Heritage, Social Sciences, and Humanities (LaTeCH 2013) in conjunction with the 51st Annual Meeting of the Association for Computational Linguistics (ACL 2013).
17. Program Committee of the 17th Panhellenic Conference on Informatics (PCI-2013), Thessaloniki, September 2013
18. Steering Committee of the 5th International Conference on Pervasive Technologies Related to Assistive Environments (PETRA-2012)
19. Co-organiser of the CSE-UTA Study Abroad Program 2012
20. Program Committee of the Panhellenic Conference on Artificial Intelligence (ΣΕΤΝ-2012).
21. Program Committee of the 6th Workshop on Language Technology for Cultural Heritage (LaTeCH 2012).
22. Program Committee of the 8th International Conference on Language Resources and Evaluation, LREC 2012
23. Program Committee of the 24th International Conference on Tools with Artificial Intelligence (ICTAI-2012)
24. Program Committee of the First International Workshop on Language Technology for Historical Text(s) (LTHisT-2012)
25. Steering Committee PETRA-2011
26. Co-organiser of the CSE-UTA Study Abroad Program 2011
27. Program Committee of the Language Technology for Cultural Heritage, Social Sciences, and Humanities Conference (LaTeCH 2011).
28. Steering Committee PETRA-2010
29. Co-presidency of the 6th Panhellenic Conference on Artificial Intelligence (ΣΕΤΝ 2010), Athens, 4-7 May 2010.
30. President of the Organisational Committee of the European Conference on Computational Linguistics (EACL-2009), Athens, March 30 – April 3, 2009.
31. Steering and Program Committee of the 1st International Conference on PErvasive Technologies Related to Assistive Environments (PETRA-2008), Athens, July 15-19, 2008
32. Program Committee of the 5th European Semantic Web Conference (ESWC-2008)
33. Program Committee of the 6th Language Resources and Evaluation Conference (LREC-2008)
34. Program Committee of the 13th International Conference on Applications of Natural Language to Information Systems (NLDB-2008)
35. Program Committee of the 11th International Conference on User Modeling (UM-2007)
36. Program Committee of the IEEE International Conference on Tools with Artificial Intelligence (ICTAI-2007)

37. Program Committee of the ACL 2007 Workshop on Language Technology for Cultural Heritage Data (LaTeCH 2007)
38. Program Committee of the IEEE 21st International Conference on Advanced Information Networking and Applications (AINA-07)
39. Program Committee of the 6th International Semantic Web Conference and the 2nd Asian Semantic Web Conference (ISWC-2007)
40. Program Committee of the 4th IFIP Conference on Artificial Intelligence Applications & Innovations (AIAI-2007)
41. Program Committee of the European Semantic Web Conference (ESWC-2006)
42. Program Committee of the Workshop "Acquiring and representing multilingual, specialized lexicons: the case of biomedicine" at LREC-2006
43. Program Committee of the 3rd IFIP Conference on Artificial Intelligence Applications and Innovations (AIAI-2006)
44. Co-organiser of the Special Session "Semantics in Multimedia Analysis and Natural Language Processing", AIAI-2006
45. Program Committee of the Panhellenic Conference on Artificial Intelligence (ΣΕΤΝ-2006)
46. Program Committee of the 1st International Workshop on Representation and Analysis of Web Space (RAWS-2005)
47. Program Committee of the Workshop "Language and Speech Infrastructure for Information Access in the Balkan Countries" at RANLP-2005
48. Program Committee of the International Conference on "Adaptive Knowledge Representation & Reasoning" (AKRR-2005)
49. Program Committee of the Panhellenic Conference on Artificial Intelligence (ΣΕΤΝ-2004)
50. Co-organiser of the Session on Computational Issues in Oncology and Molecular Biology, 9th World Congress on Advances in Oncology, 2004.
51. Co-organiser of the International Workshop "Balkan Language Resources and Tools", in conjunction with the Balkan Conference on Informatics BCI-2003
52. Organisation Committee and Ταμίας at the Panhellenic Conference on Artificial Intelligence (ΣΕΤΝ-2002).
53. Program and Organisation Committee, Workshops Chair of the Advanced Course on Artificial Intelligence (ACAI-1999) of the European Coordinating Committee of AI (ECCAI), on "Machine Learning and Applications".
54. Co-organiser of the Special Session on "Adaptive and Multilingual Information Extraction – AMIE'98", in conjunction with the International Conference EURISCON-1998
55. Program and Organisation Committee of the IJCAI-97 Workshop "Multilinguality in Software Industry: the AI Contribution - MULSAIC'97"
56. Program and Organisation Committee of the ECAI-96 Workshop "Multilinguality in Software Industry: The AI Contribution (MULSAIC'96)".

Invited Talks

1. “Education in Artificial Intelligence: Ethical Challenges and Opportunities” presentation at the “Artificial Intelligence – Bioethical Concerns and Dilemmas” Conference, 22 November 2024, Nicosia, Cyprus
2. Panel discussion on AI-induced transformation of the information industry at the Conference AI-powered data for AI-driven Public Policies, 31 October 2024, Athens, Greece
3. Panel discussion on GovTech AI at the AIForum 2024, 24 October 2024, Athens, Greece
4. Talk and panel discussion on AI4Europe and the AI-on-Demand Platform at the 88th Thessaloniki International Fair, 7 September 2024, Thessaloniki, Greece
5. Welcome speech at the first Pan-European Hackathon “Digital in Defence”, 31 May - 2 June 2024, Athens, Greece
6. Round table Moderator at the DEFEA 2024 - Defence Conference, 15 May 2024, Athens, Greece
7. Panel discussion on “How do stakeholders in the field of Health use innovation & information in Greece” at the 14th Pharmaceutical Management Conference, 3-5 April 2024, Athens, Greece
8. Panel discussion on Artificial Intelligence and its evolution at the CNN Greece “Faces” event, 30 January 2024, Athens, Greece
9. Panel discussion on Artificial Intelligence and its impact on the Health sector at the smartHEALTH Annual Forum, 17-18 January, Athens, Greece
10. Panel discussion on the progress of AI tech solutions and their applicability in multiple sectors at the Conference Synergies for the future – AI in Public Services, 12 May 2023, Athens, Greece
11. Presentation on the work conducted by the Institute of Informatics and Telecommunications on AI at the Conference Artificial Intelligence: Applications and Ethical Challenges, 23 March 2022, Athens, Greece
12. AI4Copernicus presentation at the AI4EU Stakeholder Forum, 9-10 December 2021, Bologna, Italy
13. Delphi Economic Forum event on “Changing Global Dynamics – Greece Leading into a New Era”, 30 November 2021, Athens, GreeceAthens.
14. Open Science Days Conference, 21-22 October 2021, Athens, GreeceAthens.
15. Enabling AI & Earth Observation Innovation: Integrating AI4EU platform with DIAS platforms, AI4EU Café, 15 September 2021
16. Science & Technology in the Public Sphere' event, 19 March 2019, Athens, GreeceAthens.
17. Keynote speaker at the 30th IEEE CBMS 2017 conference, "Unobtrusive clinical monitoring with robots in AAL environments: the RADIO ecosystem", Thessaloniki, Greece 22-24 June 2017.
18. Keynote speaker at PETRA 2017 conference, "RADIO Home: an integrated smart home and assistant robot clinical monitoring environment", Rhodes, Greece 21-23 June 2017.
19. RADIO presentation at the iPerform meeting, University of Texas at Arlington, Arlington, USA, March 2016
20. “RADIO: Robots in Assisted Living Environments”, Rice University, Houston, USA, 9 March 2016. (http://www.cs.rice.edu/EventsList.aspx?EventRecord=28224)
21. “Big Data Europe: the data integration layer”, Rice University, Houston, USA, 9 March 2016. (http://www.cs.rice.edu/EventsList.aspx?EventRecord=28225)
22. YDS presentation, invited speaker at Viseo Grenoble, Grenoble, France, 16 June 2016.

23. Invited Talk in Big Data in Secure Societies – 2nd Workshop, Brussels, Belgium, 18 October 2016
24. Invited Speaker at the "11th International Workshop on Semantic and Social Media Adaptation and Personalization - SMAP 2016", Thessaloniki, Greece, 20-21 October 2016 (http://smap2016.org/#/keynote/speakers/karkaletsis).
25. Keynotes on data management (R&D projects SemaGrow and BigDataEurope) and argument extraction (R&D projects CLARIN-EL and NOMAD) in the context of research visits in US universities, 23-27 March 2015.

    ✔ RICE University

    ✔ University of Houston

    ✔ University of North Texas at Denton

    ✔ University of Texas at Arlington

    ✔ University of Texas at Dallas

26. Panel speech, "Entrepreneurship and Innovation", 3rd Hellenic Forum for Science Technology and Innovation. NCSR “Demokritos”, Athens, Greece, 3 July 2015[1]
27. “21st Century Technologies: A possible solution for current problems in the health sector”, Greek Pasteur Institute, Athens, Greece, 20 February 2014.
28. “Entrepreneurship and Innovation Day, NCSR “Demokritos”, Athens, Greece, 11 July 2014
29. “Positive content for children - the creative use of the internet”, Karditsa, 3/4/2013
30. “Opportunities for research and educational cooperation with UNT – CSE”, University of North Texas (UNT), Dept. of Computer Science & Engineering, 13/11/2013
31. “Opportunities for research and educational cooperation with UTDallas – CS”, University of Texas at Dallas (UDallas), Dept. of Computer Science, 14/11/2013
32. “Roboskel - The robotics activity at the Institute of Informatics & Telecommunications of NCSR “Demokritos”, University of Texas at Arlington Research Institute (UTARI)”, 15/11/2013
33. “Opportunities for research and educational cooperation with UH – CS”, University of Houston (UH), Dept. of Computer Science, 18/11/2013
34. “Semantics and Complex Systems”, NTUA, 09/02/2012 (with S. Konstantopoulos & A. Provate)
35. LREC2012 Tutorial: "Bootstrapping ontology evolution: a generic approach relying on ontology-based information extraction", 21/05/2012, Istanbul, Turkey (A. Krithara & G. Petasis)
36. Panhellenic Conference on Artificial Intelligence (EETN-2012), Lamia, 28-31/5/2012
37. 5th International Conference on PErvasive Technologies Related to Assistive Environments (PETRA), Crete, Greece, 6-8/6/2012
38. "Complex Systems: the KR perspective", NCSR "D" Interdisciplinary Co-operation Workshop, NCSR "Demokritos", 23/07/2012.
39. ICTAI2012 Tutorial: Bootstrapping Ontology Evolution. G. Petasis, A. Krithara, V. Karkaletsis, 07/11/2012, Athens.

[1] https://www.iit.demokritos.gr/news/37-panel-discussion-entrepreneurship-and-innovation

40. 4th International Conference on PErvasive Technologies Related to Assistive Environments (PETRA), Crete, Greece, 25-27 May 2011
41. Safer Internet Day, 9-2-2010
42. University of North Texas, 2-3-2010
43. University of Dallas, 3-3-2010
44. University of Texas at Arlington, 4-3-2010
45. ILSP, 12-3-2010
46. Panel Discussion on Research Data and their Sharing, ΣΕΤΝ-2010, 7-5-2010
47. CLARIN-EL Day in the National Research Foundation, 1-10-2010
48. Invited Talk, Department of Mediterranean Studies, University of the Aegean, Rhodes, 21-10-2010
49. Invited talk at Safer Internet Day, Greek Safer Internet Node, Athens, February 2009.
50. Opening and closing sessions as Local Organiser at the 12th Conference of the European Chapter of the Association from Computational Linguistics (EACL-09), 30 March – 3 April 2009.
51. Invited talks for multimedia information extraction and ontology evolution at the University of Goeteborg, 6-7 November 2008.
52. Invited talk for MedIEQ technology at the World of Health IT 08 Conference & Exhibition in Copenhagen, Denmark. MedIEQ's approach was presented and discussed during the session "Trust Model for Health Websites" on Wednesday, 5 November 2008.
53. Invited talk for MedIEQ technology at the Workshop “Language Technology in Biomedicine”, organised by the Greek R&D project IATROLEXI, December 10, Athens, Greece, 2007.
54. “Quality Labelling of Medical Web Content: the MedIEQ project”, Joint Meeting of the DG SANCO Health Systems Working Party and DG INFSO eHealth Working Group, Luxembourg, 21-22 June 2006
55. “Quality Labelling of Web Content”, 3rd IFIP Conference on Artificial Intelligence Applications & Innovations (AIAI 2006), Athens, 7-9 June 2006
56. “Quality Labelling of Medical Web Content: the MedIEQ proposal”, eHealth 2006, “Global Trends and Perspectives Session” Malaga, 10-12 May 2006
57. “Ontology Population with the use of Information Extraction Techniques”, DaimlerChrysler Workshop on "Information and Relation Extraction for Text and Data Mining", Department for Data Mining at Daimler Chrysler Research & Technology, Ulm, Germany, 09-10 December 2005
58. “Intelligent content-based filtering and extraction”. Invited speech at Dartmouth College, Dept of Computer Science, Dartmouth NH USA, April 1, 2004.
59. “CROSSMARC Technology”, Summer Convention on Information Extraction 2002 (SCIE-2002), Frascati, Italy, July 2002.
60. “Information Extraction in the CROSSMARC project”, CLASSiks Workshop, Dagstuhl, 1-2 October 2001.
61. “Research and Innovation Actions Management”, Department of Financial & Management Engineering, University of the Aegean, Chios, Greece, May 2001
62. “Information Management in the Web”, event on Visual Communication and Creative Expression, Great Britain Hotel, January 2001

63. “Intelligent Agents as Personal Assistants: Exploiting Natural Language Generation Techniques”, Event on Intelligent Agents and Virtual Reality, Athens University of Economy and Business, June 2001.
64. “Textual Information Extraction”, Department of Computer Engineering & Informatics, University of Patras, 23 February 1999.

Scientific Societies

2006 – 2008: Vice-president of the Hellenic Association for Artificial Intelligence.

2004 – 2006: Treasurer of The Hellenic Association of Artificial Intelligence.

2000 – 2002: Treasurer of The Hellenic Association of Artificial Intelligence.

Standardisation Bodies

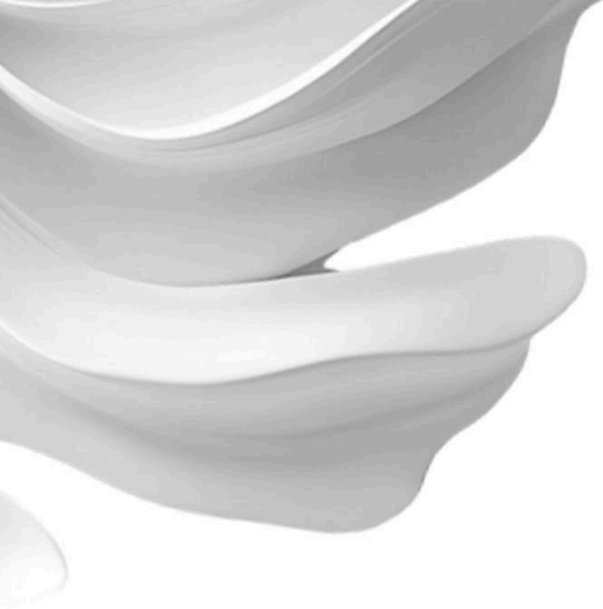
Representative of NCSR “Demokritos” in the following working groups:

- Web Content Labelling Incubator Group (WCL), World Wide Web Consortium (W3C) (NCSR-D was one of the Group’s founders), (01/2006-10/2006)
- Protocol for Web Description Resources Working Group (POWDER), W3C. Extended WCL results to the relevant W3C specification (03/2007-09/2009).

Media Presence

Below is indicative material featuring my presence in the media.

https://karkaletsis.iit.demokritos.gr/media/



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