

Collaborating with NGOs to Advance Sustainable Development Goals Through Research Programs

Research Project Title: Prediction, Monitoring and Personalized Recommendations for Prevention and Relief of Dementia and Frailty

- **Acronym:** COMFORTage
- **Funding framework:** HORIZON EUROPE
- **Department:** Electrical Engineering, Computer Engineering and Informatics
- **Abstract/collaboration with NGOs:** COMFORTage is a pan-European initiative focused on tackling age-related Non-Communicable Diseases (NCDs) such as dementia and frailty. Bringing together experts from medical, technical, and social sciences, the project leverages medical innovations, AI-driven decision tools, and Digital Innovation Hubs. Through Holistic Health Records (HHRs), it integrates diverse health data to improve NCD prevention, monitoring, and care, fostering personalized, community-based support for aging populations. Collaborating with NGOs across Europe, including Fondazione Gemelli IRCCS (Italy), Fundació ACE (Spain), and others, COMFORTage aligns with SDGs 3 and 9.

Research Project Title: Hyper-Distributed Artificial Intelligence Platform for Network Resources Automation and Management Towards More Efficient Data Processing Applications

- **Acronym:** HYPER-AI
- **Funding framework:** HORIZON EUROPE
- **Department:** Department of Electrical Engineering, Computer Engineering and Informatics
- **Abstract/collaboration with NGOs:** HYPER-AI leverages smart virtual computing entities (nodes) across the Cloud, Edge, and IoT to enhance intensive data-processing applications through optimized hyper-distribution. It implements computing swarms as autonomous networks, providing targeted applications access to diverse computational, storage, and network services. The project introduces semantic representation concepts for consistent resource abstraction across infrastructures. Inspired by autonomic systems, HYPER-AI simplifies the design, execution, and monitoring of smart multi-node deployments with self-configuration, self-healing, self-optimizing, and self-protecting capabilities. It also incorporates distributed ledger concepts for security and AI-based intrusion detection. Collaborating with the NGO Eclipse Foundation (<https://www.eclipse.org/>) it is aligned with SDG 9.

Research Project Title: Maritime Digitalization Research Infrastructure

- **Acronym:** MDigi-I
- **Funding framework:** RESTART (IØEK)

- **Department:** Department of Electrical Engineering, Computer Engineering and Informatics
- **Abstract/collaboration with NGOs:** The proposed project aims to establish a new research infrastructure that fosters synergies and advances maritime digitalization technologies, enhancing safety, security, and efficiency for sustainable shipping and marine transport. This infrastructure has the potential to become a Center of Excellence, focusing on the development, testing, validation, and training in maritime digitalization. It will provide access to physical spaces, equipment, and expertise, facilitating research and innovation in IoT, AI/ML applications, digital twins, and decision support systems for smart ships and harbor facilities. Organized into openly accessible testbeds and laboratories, this initiative supports collaboration among stakeholders, including the Cyprus Shipping Association (<https://www.cyprusshipping.com/csa>) and aligns with SDGs 9, 13, and 14 to promote sustainable practices in the maritime sector.

Research Project Title: European Union’s REKconstructed content in 3D

- **Acronym:** EUreka3D
- **Funding framework:** DIGITAL
- **Department:** Department of Electrical Engineering, Computer Engineering and Informatics
- **Abstract/collaboration with NGOs:** This program collaborates with UNESCO and Professor Ioannides hold the UNESCO Chair on Digital Cultural Heritage at the Cyprus University of Technology. UNESCO's mission is to contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information. Moreover, it takes into account and contributes to the gender equality, Climate action and life below water.

Research Project Title: Co-curating in the Phygital Museum and the creation of alternative narratives and transcultural “voices” towards developing inclusive and sustainable museums

- **Acronym:** ExhiBIT
- **Funding framework:** ERASMUS+
- **Department:** Department of Electrical Engineering, Computer Engineering and Informatics
- **Abstract/collaboration with NGOs:** The Erasmus+ Project *Co-curating in the Phygital Museum* highlights innovative co-curatorship through "phygital" strategies, combining physical and digital experiences to enhance visitor engagement in multicultural, post-pandemic museum spaces. In alignment with the EU’s Digital Education Action Plan (2021–2027), the ExhiBIT project equips Creative and Cultural Industries (CCI) professionals with advanced digital skills and pedagogical tools to foster social inclusivity. Through co-curatorship, the project encourages dialogue with underrepresented societal groups, collaboratively shaping inclusive and participatory museum environments.

This initiative collaborates closely with UNESCO, benefiting from the expertise of Professor Ioannides, who holds the UNESCO Chair on Digital Cultural Heritage at the Cyprus University of Technology. Reflecting UNESCO's mission to promote a culture of peace, poverty eradication, sustainable development, and intercultural dialogue, the project contributes to global priorities, including gender equality, climate action, and the protection of marine life (*Life Below Water*).

Research Project Title: Cyprus Ground Motion Service

- **Acronym:** CyCLOPS+
- **Funding framework:** RESTART (ΙΔΕΚ)
- **Department:** Civil Engineering and Geomatics
- **Abstract/collaboration with NGOs:** The proposed research initiative aims to enhance the CyCLOPS strategic research infrastructure, the only Tier-1/2 GNSS reference station network in Cyprus that studies solid earth processes and geohazards. The project has two main objectives: to densify the existing infrastructure with additional autonomous GNSS multi-sensor configurations and to develop the Cyprus Ground Motion Service (CyGMS) for precise assessment of ground motion displacements and velocities. Collaborating with two research organizations, an SME, and the German Aerospace Center (DLR), CyGMS will be publicly accessible through an advanced ICT platform. This initiative addresses the gap in reliable ground motion monitoring in Cyprus, as current data primarily relies on the unvalidated European Ground Motion Service (EGMS). Ultimately, it aims to identify geohazard-prone areas, enhancing national safety and economic stability. The project collaborates with the Eratosthenes Centre of Excellence and aligns with SDGs 9 and 13, promoting infrastructure development and climate action.

Research Project Title: Covering Cohesion Policy in Europe – Training MOOC for European Journalism Students

- **Acronym:** COPE
- **Department:** Communication and Internet Studies
- **Abstract/collaboration with NGOs:** The project led to a free, semester-long MOOC on Cohesion Policy, developed by a consortium of European universities and journalism organizations. This interactive course, available in all EU languages, equips journalism students with essential knowledge on EU governance, Cohesion Policy, and data-gathering tools. Cyprus University of Technology is a key partner, represented by Associate Professors Dimitra Milioni and Lia Spyridou. Collaborating NGOs include Arena for Journalism in Europe (ARENA) and the European Journalism Training Association (EJTA). Aligned with SDGs 4 and 16.

Research Project Title: Toolkit of Care

- **Acronym:** TOC

- **Department:** Fine Arts
Abstract/collaboration with NGOs: The Covid-19 pandemic has intensified existing inequalities, severely affecting the precarious cultural sector, particularly in Inclusiveness Target and Near Neighbour countries with minimal government support for creative practitioners and NGOs. This crisis not only disrupts local cultural production but also restricts global access to their innovations. In response, an interdisciplinary group of creative practitioners, academics, researchers, and arts organizations, including CYENS (<https://cyens.org.cy/>), has formed a “critical network of care.” Their goal is to share expertise and develop care methodologies, resulting in a comprehensive TOOLKIT OF CARE that includes articles, prototypes, audiovisual documentation, technical manuals, and theoretical analyses. This toolkit will provide a model for effectively sharing knowledge across diverse regions and social groups, aligning with SDGs 5, 8, 10, 11, and 17.

Research Project Title: Circular and Dynamic Manufacturing Supply Chain Orchestration and Optimisation

- **Acronym:** CIRCULOOS
- **Funding framework:** HORIZON EUROPE
- **Department:** Mechanical Engineering and Materials Science and Engineering
- **Abstract/collaboration with NGOs:** CIRCULOOS aims to provide circular manufacturing tools that optimize the supply chain while integrating planning and execution. By calculating product sustainability and circularity profiles in collaboration with internal and external partners, the project enables the development of innovative circular manufacturing processes for sustainable production throughout a product's life cycle, including recycling. Key objectives include orchestrating collaborative workflows, enhancing supply chain metrics with advanced visualizations, and optimizing processes. It also features dynamic sustainability assessments for evaluating different scenarios and promotes secure data sharing through a robust identity management system. The initiative will demonstrate circular business processes that support material reuse, reduction, and recycling, along with upskilling programs through RAMP and online courses. Collaborations with NGOs, such as the Mobile World Capital Barcelona Foundation and Consorcio Red Alastria, align with SDGs 9, 12, and 13.

Research Project Title: Developing a Country-Observatory for sharing best practices for vaccination promotion

- **Acronym:** co-OPERATOR
- **Funding framework:** EU4HEALTH
- **Department:** Nursing
- **Abstract/collaboration with NGOs:** European stakeholders approach vaccination hesitancy and COVID-19 vaccination campaigns differently, often challenged by public hesitance and healthcare professionals' communication skills. The co-OPERATOR project seeks to address these issues by creating a

knowledge hub, virtual observatory, and training system for sharing best practices and enhancing communication across countries. Guided by behavioral science frameworks (COM-B and 7C Models), it aims to shape effective policy through a Policy Making Lab tested in Belgium, Cyprus, Greece, Italy, and Portugal. Collaborating with NGOs like the Active Citizenship Network and European Forum for Primary Care, it supports SDG 3.

Research Project Title: tAckLing menTAl Health cancer patients and their families: digital solutions for bETter cAre

- **Acronym:** ALTHEA
- **Funding framework:** EU4HEALTH
- **Department:** Nursing
- **Abstract/collaboration with NGOs:** As of 2020, cancer ranked as the world's second-leading cause of death, with psychological impacts such as anxiety, depression, and cognitive challenges affecting patients and their caregivers. Digital platforms offer accessible, cost-effective support by reducing geographical barriers and enhancing patient well-being. This project aims to develop the Althea platform, a web-based tool to screen for mental health issues among cancer patients and their families while providing healthcare providers with educational resources and personalized support tools. Althea will systematically screen pediatric, adolescent, and adult patients, identifying those at high risk for mental health issues and facilitating timely, tailored interventions. Collaborating with NGOs including the European Cancer Patient Coalition, European Cancer Organization, and CF World Against Cancer, the project aligns with SDGs 3 and 4.

Research Project Title: GreenTouch: EcoMind Development for Higher Education Future

- **Acronym:** GreenTouch
- **Funding framework:** ERASMUS+
- **Department:** Nursing
- **Abstract/collaboration with NGOs:** The project aims to enhance digital and green capabilities in higher education through EcoMind-based strategies, improving students' mental well-being and sustainability awareness. Activities include developing the GreenTouch digital tool, an EcoMind e-course, and joint staff training via wilderness hackathons. With over 2,000 participants, it will host international roundtables and a transdisciplinary conference, fostering institutional collaboration. Partnering with the NGO Forest Therapy Hub, the consortium's efforts align with SDGs 3 and 4, establishing a sustainable network for education and research and culminating in a scientific publication to share results.

Research Project Title: Project for the Upgrade of the School Health Service

- **Acronym:** School4Health

- **Department:** Nursing
Abstract/collaboration with NGOs: School Health Services (SHS) play a vital role in enhancing children's health, but developing effective, evidence-based services that meet local needs poses challenges. In Cyprus, the Ministry of Health has collaborated with academia and various stakeholders to redesign SHS using a participatory action research approach. This process involved key departments from the Ministries of Health and Education, the State Health Services Organization, and organized parent associations. By identifying critical needs for SHS—such as improved organizational models and targeted interventions for obesity and mental health—this initiative fosters ongoing staff development and family engagement. It exemplifies how participatory research can create SHS that align with international standards and contribute to achieving SDGs 3, 4, 5, 6, and 10.

Research Project Title: Preventing the Preventable – Familial Hypercholesterolemia Paediatric screening for cardiovascular health

- **Acronym:** PERFECTO
- **Funding framework:** EU4HEALTH
- **Department:** Rehabilitation Sciences
Abstract/collaboration with NGOs: The PERFECTO project ("Preventing the Preventable – Familial Hypercholesterolemia Pediatric Screening for Cardiovascular Health") is a pioneering initiative in personalized prevention, targeting the genetic roots of cardiovascular disease through social innovation. The project aims to establish a scientific basis for pediatric screening of Familial Hypercholesterolemia (FH) across Europe, positively impacting affected individuals, families, and healthcare systems strained post-pandemic. Led by a diverse consortium—FH Europe Foundation (coordinator), EuroScan (Germany), Cyprus University of Technology, InnoMed (Romania), and EPHA (Belgium)—the project combines expertise in healthcare, social sciences, and participatory research. Collaborating with FH Europe (<https://fheurope.org/>), it aligns with SDGs 3, 10, and 16.

Research Project Title: Epistemologies in Science Technology Engineering Arts and Math

- **Acronym:** EPISTEAM
- **Funding framework:** HORIZON EUROPE
- **Department:** Social Computing Research Centre (SCRC)
Abstract/collaboration with NGOs: The main aim of Epistemology in Art, Science, Technology (EpiTeaM) is to create a collaborative consortium and intersectoral network to explore how diversifying epistemological positions can lead to responsible technological education and innovation. This initiative addresses the impact of digital technologies on knowledge construction, contributing to an 'epistemic crisis' in academia and beyond. By investigating the intersections of Art, Science, and Technology through transdisciplinary research, the project seeks to expand concepts like Techne and technics. In the face of globalized computational conditions, it will challenge traditional

epistemological frameworks and explore the role of digital technologies in shaping knowledge, ultimately advocating for Technodiversity as essential for future sustainability. The project collaborates with CYENS and includes partners from the European University of Technology (ECT Lab+), institutions in the USA and India, as well as various European SMEs and public bodies. It aligns with SDGs 5, 8, and 9, promoting gender equality, decent work, and infrastructure development.