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## **University of the Aegean Interventions during COVID-19**

The academic community of the University of the Aegean systematically monitors the development of the unprecedented, for modern history, public health crisis at the international level and timely and validly undertook actions and initiatives to respond constructively and effectively to the new conditions. All necessary measures have been taken not only to ensure the health and safety of all members of the community in the context of both collective and individual responsibility, but also to continue all educational, research and administrative functions of our Institution, limiting the effects of the pandemic to the least.

In this context, with a sense of responsibility and consistency, the Aegean University proved that it is an integral part of the local communities of the Aegean in particular, but also of Greek society in general, undertaking academic, research and extensive social action with reference to modern challenges. All initiatives have been taken based on the principle that knowledge and research do not develop in a sterile and socially distant environment, away from modern social developments, away from the real events and needs of people. On the contrary they are influenced by social conditions and developments and return their benefits to society.

Thus, although under adverse conditions the teaching and research activities of the spring semester of all 43 postgraduate study programs, were conducted entirely by distance. Research at a doctoral level also progressed through the use of technology.

In particular regarding the COVID-19, the academic community of the Aegean, displaying rapid reflexes, has taken important initiatives in the study and the provision of solutions regarding the phenomenon. Its actions were focused on understanding and mitigating the effects of the pandemic, such as: printing 3D healthcare material (eg multi-purpose face shields), dynamic recording and monitoring of multiple-factor statistical data, application development, publication of scientific articles.

### **Brief Description of (17) Interventions:**

[1] Intervention Description: The Department of Product & Systems Design Engineering, University of the Aegean, has taken the initiative to gather in a collective action the creative energy of all members of his family to produce planned interventions to meet the needs that have arisen from the new reality. For this purpose, a tender titled "PUBLIC HEALTH DESIGN RESPONSE" was announced. At the same time, in the laboratory of Integrated Industrial Design, the 3D protective masks were made in order to face the needs of Syros and Arta Hospital.

- Department of Product and Systems Design Engineering - Integrated Industrial Design Laboratory
- Focal Point: Filippos Azariadis, Professor, Department of Product and Systems Design Engineering.

[2] Intervention Description: A series of applications aimed at studying the ever-increasing SARS-CoV-2 virus literature. So far, three applications have been developed: (<http://ideal.aegean.gr/covid19/>)

1. A dynamic research service of the literature published so far on SARS-Cov-2 and COVID-19 disease.
2. A reporting tool that automatically extracts answers to the above questions based on this bibliography.
3. A question / answer machine where the user can ask any relevant question and receive documented answers based on the published work.
  - Intelligent Data Exploration and Analysis Laboratory (IDEAL) of the Department of Financial and Management Engineering.
  - Focal Point: Abazis Nikolas, Associate Professor, Department of Financial and Management Engineering

[3] Intervention Description: Research on the use of a face mask to combat the Covid-19 outbreak.

- Focal Point: Velegrakis Antonis, Professor, Department of Marine Sciences.

[4] Intervention Description: WebGIS application for the effects of the COVID outbreak on the perspective of work and employment (<https://arcg.is/1X0Tbv> ).

The online toolkit 'COVID-19\_Regional\_Labour' presents regional statistics for the COVID-19 in Greece, Cyprus, Italy and Spain. Most of these data in regional level cannot be easily or directly found on other webgis applications so far. Specifically, it includes the following maps:

- ✓ Map of the total number of confirmed cases per region
- ✓ Map of the% share of deaths in confirmed cases
- ✓ Case map of per capita per 100,000 inhabitants
- ✓ Map of deaths in the regions per 100,000 inhabitants
  - Research Group "Geography of Labor" of the Department of Geography.
  - Focal Point: Gialis Stelios, Associate Professor of the Department of Geography

[5] Intervention Description: Development of system monitoring the state of health and spatial position of citizens with respect to privacy and anonymity: "*For a Democratic and Privacy Protecting Health Status and Location Observation Facility*".

- i4M Lab - UAegean (Information Management Lab) (School of Engineering | Department of Financial and Management Engineering).
- Focal Point: Kavassalis Petros, Associate Professor, Department of Financial and Management Engineering.

[6] Intervention Description: Collection and analysis of data on the spread of Covid19 for 177 countries. Deaths, confirmed cases, and recovery cases on a daily basis are counted. Population, health and economic data from each of the 177 countries are also recorded and merged to be used for further analysis. The intensity and change of the phenomenon per country is calculated and compared with the measures that have been implemented for all countries.

- Spatial Analysis, Geographical Information Systems and Remote Sensing (SAGISRS), Department of Geography.
- Focal Point: Dimitris Kavroudakis, Assistant Professor, Department of Geography.

[7] Intervention Description: 3D printing of sanitary material. The PrivaSI Lab research laboratory "Privacy Engineering and Social Informatics" of the Department of Cultural Technology and Communication of the University of the Aegean is participating in the construction, through the 3D printing of masks that will be available to health care providers. From Saturday, March 26, all members of the Laboratory came together under the common goal of the HELLAS COVID 3D Supplies team through the 3DHUB company and the Ministry of Health, with the aim of creating masks using 3D printing."

- PrivaSi Laboratory (Privacy Engineering & Social Informatics) of the Department of Cultural Technology and Communication (DCTC), School of Social Sciences.

- Focal Point: Christos Kalloniatis, Associate Professor of the Department of Cultural Technology and Communication.

[8] Intervention Description: Research entitled: "*Development of Simulation and Mathematical Modeling Techniques for the Spread Analysis of Coronavirus*".

- Laboratory of Geographic Information Systems, Geo-Economy and Geopolitics (GEOPOL Lab) of the Department of Shipping Trade and Transport.
- Focal Point: Karkazis Ioannis, Emeritus Professor of the Department of Shipping and Business Services and Th. Markopoulos, PhD Candidate, Department of Economics and Management Engineering.

[9] Intervention Description: "Research-action for the publication of the June 2020 issue of the Journal of Regional Socio-Economic Issues, June 10, Issue 2 on the subject: "*The socio-economic impact of pandemics (SARS, Coronavirus) The Socio-Economic Impact of Pandemics (SARS, Coronavirus)*».

- The participating Laboratories & Research Teams: Laboratory of Economic Geography, Regional Development and Spatial Planning of the Department of Geography, Mental Health Programs of the Department of Sociology and Laboratory "Ergaxia" of the Department of Sociology.
- Focal Point: Korres Georgios Professor of the Department of Geography, Papanis Efstratios, Permanent Assistant Professor of the Department of Sociology, Tsombanoglou George Professor, Department of Sociology.

[10] Intervention Description: 3D printing of sanitary material. The research team of the Quantitative Methods Laboratory (QMLab) of the Department of Business Administration of the University of the Aegean also participates in the Panhellenic Group of Volunteers Hellas Covid-19 3D Printing Supplies in order to print 3D face shields. The Hellas Covid-19 team was created after a meeting with the Ministry of Health in order to coordinate actions for the supply of 3D printed personal protective equipment in hospitals and health facilities in Greece.

- Quantitative Methods Laboratory - QMLab of the Department of Business Administration, School of Business.
- Focal Point: Mavri Maria, Associate Professor, Department of Business Administration.

[11] Intervention Description: Original platform with data on the COVID-19 pandemic in real time, information from experts and suggestions with relevant links for activities while staying home <http://coronavirusingreece.eu>

- Computer and Communication Systems Laboratory (CCSL), Department of Information and Communication Systems Engineering (ICSD), School of Engineering.
- Focal Point: Papakonstantinou Achilleas, graduate and research associate, Skianis Charalambos, Professor, Department of Information and Communication Systems Engineering.

[12] Intervention Description: Research on the imprint of the pandemic in Greek society. Collection of qualitative and quantitative data on the attitude of citizens towards the pandemic.

- Research Team of Mental Health Programs, Department of Sociology.
- Focal Point: Papanis Efstratios, Assistant Professor of the Department of Sociology.

[13] Intervention Description: Research through questionnaires: 1) Questionnaire to investigate the effect of assessing Restrictive Measures on Time Use and Individual Activities, the results of which will be part of ENIRISST's analysis of individual behavior, their attitudes and perceptions, as well as their well-being. 2) Questionnaire for Last Mile Delivery (LMD) "Receipts at Home" due to COVID.

<http://daphne-new.chios.aegean.gr/~surveys/COVID/>

- Laboratory of Transport and Decision Making Sciences (TRANSDM) of the Department of Shipping, Trade and Transport (STT) in the framework of the Intelligent Research Infrastructure for Shipping, Supply chain, Transport and Logistics (EN.I.R.I.S.S.T.) Research Project.
- Focal Point: Polydoropoulou Amalia, Professor of the Department of Shipping, Trade and Transport (STT).

[14] Intervention Description: Development of regression models to determine the factors (at the macro-level) on which it depends: a) The magnitude of those affected by COVID-19 and b) mortality from this virus among countries that experiencing the disease.

- Laboratory of Social Informatics, Statistics and Research Infrastructure (SISRI) of the Department of Sociology
- Focal Point: Konstantinos Rontos, Professor of the Department of Sociology, Director of SISRI & Maria-Eleni Syrmali, Assistant Professor, Member of SISRI.

[15] Intervention Description: Update via the Facebook page on the development of the disease in Greece and in other European countries (Italy, Spain, United Kingdom, Netherlands, Norway, France, Germany). The update is made after processing the data announced by the competent national authorities and includes short-term estimates, where possible.

- Ecology and System Dynamics Laboratory, Department of Marine Sciences, School of Environment.
- Focal Point: George Tsirtsis, Professor of Department of Marine Sciences.

[16] Intervention Description: Development of an original IT application, with the aim of state-central information on the outbreak of COVID-19, in the context of the Panhellenic Competition 'Antivirus Hackathon' for digital applications to deal with the COVID-1 crisis, in the first phase of which was awarded and the group of 5 students of the University of the Aegean qualified.

<https://medium.com/the-crowdpolicy-collection/antivirus-crowdhahackathon-rotos-kyklos-ea6f758a1d5c>

- Information Systems Laboratory Department of Information and Communication Systems Engineering.
- Focal Point: Charalabidis Ioannis, Professor, Department of Information and Communication Systems Engineering, School of Engineering.

[17] Intervention Description: Action research for the reorganization and reprogramming of the social self from the trauma of Endocrine to the individual and the family as a result of the pandemic.

<https://surveybot.io/c/88f9d291fbd1d336879933f95e7a41801> and <https://bit.ly/39Z58wi>

- Sociological and Cultural Digital Documentation Lab of the Department of Sociology & Intelligent Systems Lab (i-Lab) of the Cultural Technology and Communication (CTC) department.
- Focal Point: Htouris Sotiris, Professor of the Department of Sociology, Zisi Anastasia, Professor of the Department of Sociology, Christos-Nikolaos Anagnostopoulos, Professor of the Cultural Technology and Communication (CTC) department.