CAN ANNUAL NEWSLETTER

Issue # 3 - March 2024

Welcome to CAN's third Annual Newsletter! To our loyal members, we appreciate your continued support. To our new subscriptions, thank you for joining! We are pleased to have you as part of CAN's exciting news and updates. Scroll down to get updated with all the latest from CAN.

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CAN Annual Scientific Conference

This year, CAN celebrated its 13th Annual Scientific Conference. The all-day event occurred on November 29th, 2023, at UCY's main campus (Kallipoleos). This year's theme was 'Contributions of Predictive Modelling & Artificial Intelligence to Applied Neuroscience'. There were three invited speakers, three symposiums, a panel discussion 'Ask the Experts', short abstract presentations, and 18 scientific posters.

Let's meet our invited speakers/panel:

Keynote/Panel: Professor George M. Spyrou is the Bioinformatics European Research Area Chair Holder and the Head of the Bioinformatics Department (C-BIG) at the Cyprus Institute of Neurology and Genetics (CING). He is the Bioinformatics Course Coordinator at the Postgraduate School of CING, where he has been elected as a full Professor. He is a Senior IEEE Member and serves on the Editorial Board in well-known bioinformatic cs-related journals. His work focuses on the design and development of computational methods for discovering complex patterns of biomarkers, understanding underlying molecular mechanisms and drug repurposing through network-based analytics and systems bioinformatics.

Invited Speaker/Panel: Dr. Christoforos Christoforou is an Associate Professor at the Division of Computer Science, Mathematics, and Sciences of St. John's University in New York, USA. He also serves as the Program Director of the Master's in Computer Science program at St. John's University and leads the Neuro-Intelligence and Innovation Lab. His research explores questions and problems at the intersection of computer science and neuroscience. His approach focuses on developing machine learning and AI algorithms to decode and extract information from electroencephalographic (EEG) and other neurophysiological signals and use those to design novel neurotechnology solutions and gain insights into the neurocognitive processes of the human brain during complex and dynamic tasks. His research contributions include applications in a wide range of domain areas such as brain-computer interfaces, human-robot interaction, neuro-cinematics, and neuro-marketing, as well as the study of the neural underpinnings of reading disorders and other neurocognitive processes (i.e., spatial cognition, emotions) during complex paradigm design (i.e., dynamic video viewing). He also maintains a close collaboration with the Learning Disabilities Group of the Center for Applied Neuroscience of the University of Cyprus, led by Prof. Timothy Papadopoulos. Dr. Christoforou holds a Ph.D. and M.Phil. in Computer Science from the Graduate Center of the City University of New York and a Master of Science from the City College of the City University of New York.

Invited Speaker/Panel: Dr. Mihalis Nicolaou is an Assistant Professor at the Computation-based Science and Technology Research Center at The Cyprus Institute. He received the B.Sc. degree from the University of Athens, Greece (2008), and the M.Sc. (2009) and Ph.D. (2014) degrees from the Department of Computing, Imperial College London, U.K. He is interested in developing machine learning algorithms that are robust, efficient, generalizable, and interpretable, with a particular focus on generative models. He works in various applications, often related to computer vision and natural language processing. At the same time, he is particularly interested in critical interdisciplinary applications of machine learning, as in the domains of health and climate monitoring. His earlier work on human sensing received best paper awards (IEEE Face and Gesture '11, ICASSP '16), while he has been a guest editor at IEEE Transactions on Affective Computing. He has published more than 70 research papers in venues including NeurIPS, ICLR, CVPR, and TPAMI.

Panel: Dr. Jahna Otterbacher (Ph.D., University of Michigan at Ann Arbor, USA) is an Associate Professor and Vice Dean of the School of Pure and Applied Sciences at the Open University of Cyprus (OUC). At OUC, she leads the Cyprus Center for Algorithmic Transparency (CyCAT), which conducts interdisciplinary research on technical and educational solutions for promoting AI transparency and literacy. In addition, Jahna co-leads the Fairness and Ethics in AI-Human Interaction (fAIre) group at CYENS, a new Center of Excellence and Innovation in Nicosia, Cyprus. Her research has been funded by the EU's Horizon 2020 Research and Innovation Program (under Grant Agreements No. 739578 (RISE) & No. 810105 (CyCAT), as well as the Cyprus Research and Innovation Foundation (under grants EXCELLENCE/0918/0086 (DESCANT) and EXCELLENCE/0421/0360 (KeepA(I)n). Since 2022, she has been included on the Stanford-Elsevier list of the world's most-cited scholars (in artificial intelligence–image analysis).

For more information or to watch the video, please click **here**. We look forward to what the future will bring!

To view all our past conferences, click **here**.
To view our programs and pictures from our past conferences, click **here**.

EUROPEAN RESEARCHERS' NIGHT 2023

The Research and Innovation Foundation (RIF) hosted the 2023 European Researchers' Night at the State Fair in Nicosia titled 'Mission: CONNECT'. CAN's booth #22 titled 'Brain in Action' was consistently packed. There were many activities for all ages, as well as intellectual conversations. This year, our research team went all out! They made homemade playdoh for our little participants to craft a brain or a nerve cell, a homemade puzzle of a brain, various memory games, a sensory activity and much more. All ages enjoyed the creativity and learning experience at our booth. Our researchers did an incredible job keeping everyone engaged and eager to learn more about neuroscience. Many thirsty minds created an evening of inspirational conversation between adults; ample questions allowed our researchers to share their years of knowledge and experience.

To view all our pictures from the event, **click here.**

NEUROCOGNITIVE RESEARCH LAB

BRAINN

The Brain Research and Integrative Neuroscience Network for COVID-19

CALLING participants!

We invite you to volunteer to participate in the first epidemiological study for mental health and cognitive abilities in Cyprus aiming to study the long-term effects of COVID-19. This study is aimed at everyone over 18, even if you have never contracted COVID.

Participation is online and involves the completion of questionnaires and cognitive tasks. The total duration is approximately 75 minutes. Please ensure before participating that you can devote sufficient time to complete the tasks. You can join from your mobile phone, tablet, computer, etc. ***If you choose, you can receive a copy of your scores at the end of the study***.

The study is currently available in Greek. For more information and to participate in Greek, click on the link:

https://redcap.link/BRAINN

The study will also be available in English in the coming weeks, and you will receive an email once launched. As well you can check out our website for updates here:

https://www.ucy.ac.cy/brainn/

BRAINN Workshop #2

In April of 2023, our researcher from the BRAINN project in Cyprus had the opportunity to participate in the 2nd workshop hosted by their BRAINN research partners at Maastricht University. The workshop focused on Non-Invasive Brain Stimulation and Cognitive Training. Our fellow partners at Maastricht University did an incredible job; we thank them for all their hard work and efforts.

BRAINN is funded by the European Research Executive Agency (REA) of the European Commission.

For more information, **click here.** Follow BRAINN on Facebook here.

BRAINN Workshop #3

In July, Maastricht University hosts yet another workshop but in person. Our BRAINN researchers again had the opportunity to collaborate with their partners on cutting-edge Non-Invasive Brain Stimulation techniques and cognitive training for treating Long COVID-19-related cognitive and psychological symptoms.
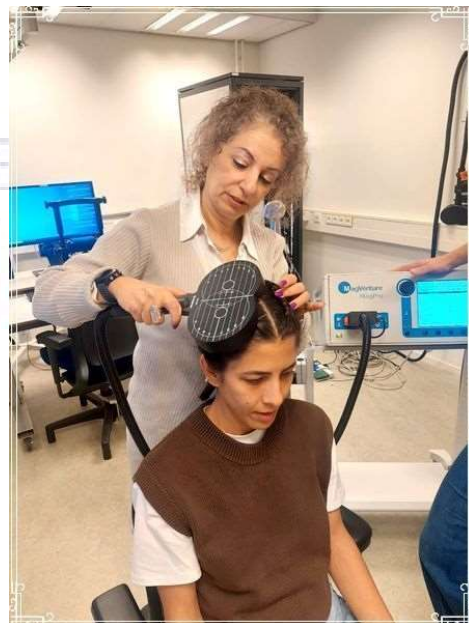
The BRAINN team held an information day on Long COVID-19 in January 2024 at the University of Cyprus. Speakers included the project coordinator, Prof. Fofi Constantinidou, BRAINN post-doctoral researchers, health professionals involved in Long COVID-19 and members of the Federation of Cyprus Patients' Associations - OSAK. The event was followed by focus groups for patients and medical professionals based on Long COVID-19.

This event has assisted the members of the project to gain more insight on what the community is dealing with when it comes to Long COVID-19. Through a survey, the patients expressed appreciation for being heard and the opportunity to meet others.

We look forward to sharing our Long COVID-19 discoveries with everyone.

CAT-BRAIN

Combating Cognitive Decline and Promoting Brain Health and Well-Being with the Categorization Program

What is CAT-BRAIN?

CAT-BRAIN is an interactive platform that unlocks the future of cognitive rehabilitation. The software platform is based on a well-established cognitive rehabilitation program developed over 20 years ago. This program has undergone extensive validation through numerous clinical studies, demonstrating its effectiveness in improving cognitive function, memory, and overall quality of life for individuals with various cognitive impairments. The target market is rehabilitation centers, healthcare organizations, clinicians in private rehabilitation settings, university educators, and government and healthcare authorities.

UPDATES:

We are thrilled to finally pull back the curtain and start sharing the groundbreaking journey we've embarked on CAT-BRAIN.

To follow CAT-BRAIN's journey, click here: LinkedIn

For the CAT-BRAIN website, click here.

Neurocognitive Research Lab Awards

2023 Digital Agenda Alpha Stage competition

At the 2023 Digital Agenda Alpha Stage competition, CAT-BRAIN was a contestant and a WINNER of The Rising Star Award! This award is due to the incredible support of the project partner and pillar, Cyprus Seeds. They believed in CAT-BRAIN from the very beginning.

This event is a platform that celebrates groundbreaking ideas and emerging talents in the tech and start-up sectors. CAT-BRAIN is committed to advancing cognitive rehabilitation and positively impacting the lives of those facing cognitive challenges.

Congratulations to Prof. Fofi Constantinidou and doctoral student Ioulia Solomou.

ACRM Women in Rehabilitation Sciences Award

Our Director/Founding Member of CAN, founder of CAT-BRAIN and UCY Department of Psychology Professor Fofi Constantinidou, was awarded the "Women in Rehabilitation Sciences" Award for 2023/ACRM Women in Rehabilitation Sciences Award!

The international honorary award from the U.S. Congress of Medical Rehabilitation concerns her significant contribution to rehabilitation research. The innovative research of Professor Fofi Constantinidou aims at the connection between neuropsychology and neurophysiology of acquired brain disorders and the creation of effective intervention programs through clinical trials.

The Award was established in 2018 to honour women researchers in medical rehabilitation. Candidates must have produced excellent world-class research work in rehabilitation sciences.

BIACY

The Cyprus Brain Injury Association (BIACY) has become a reality!

In June 2023, Prof. Fofi Constantinidou and her team hosted the second Pancyprian Event on Brain Injuries, organized in the framework of the BRAIN-REHAB* research project. The event included the statutory meeting of the Cyprus Brain Injury Association (BIACY). People who have suffered a brain injury, family members, friends and health professionals were present. The event was in the Greek language.

The BRAIN-REHAB research team made a moving presentation of a participant from the study to show how far he has come and the importance of a community. To view this video, **click here**. There was a second video of a family member's perspective, which can be found by **clicking here**.

This important initiative stems from the needs of patients and their families, as was evident from the first Pancyprian workshop held in December 2022. According to the results of CAN surveys, 69% of people who survive moderate-severe CEC live with significant disability several years after their injury. The Association's primary goal is to inform and raise awareness among the public and decision-makers about treating and rehabilitating brain injuries. The Association will promote the interests of patients to ensure the health, well-being, dignity, and quality of life of the sufferers and their families.

For more information, **click here**.

Learning Disabilities Group

Publicity

Neurodevelopmental disorders

#Sciencetalks is a UCY podcast that speaks everything science. In March of 2023, Prof. Timothy C. Papadopoulos, CAN Founding Member and UCY Department of Psychology Professor, delivered the 65th episode of #ScienceTalks. Click **here** to listen as he explains what types of neurodevelopmental disorders exist, their characteristics, what new knowledge is currently offered by assessment or other biological tests, and so on. Based on the records kept by the #Sciencetalks, the Office of Communication and Public Relations, at UCY, on May 2023, the podcast had become the top choice and had the highest number of hits worldwide in a series of broadcasts offered by UCY to the public. Many thanks to the Head of the Office, Marisa Labiri, for organizing this podcast and to the public who supported the event!

Neo-PRISM-C Final Conference

In May 2023, Neo-PRISM-C hosted its final conference entitled "Neurodevelopmental Disorders: New Directions". Guests learnt what was new in central areas related to difficulties in children from the scope of optimal predictors of neurodevelopment and risk factors within a systems approach. The four-day event was packed with invited speakers from around the world. One of the keynote speakers was Prof. Tomas Paus from the University of Montreal, who gave an inspiring lecture on "Population Neuroscience of the Growing Brain". Prof. Karin Landerl, University of Graz, Austria, delivered the second keynote. Her stimulating address focused on the "Comorbidity of Learning Disorders: Associations and Dissociations of Reading, Spelling and Arithmetic Development". The final keynote speaker was Prof. Yair Bar-Haim from Tel Aviv University. He gave his motivating lecture on "Using Transdiagnostic

Approaches to Explore the Interplay between Genetic and Environmental Influences across Neurodevelopment". A presentation was also provided by the chair of the Marie-Curie Alumni Association (MCAA), Georgia Soursou, who spoke about the organization and the activities of the Cyprus Chapter. Many more researchers have presented over the 4-day event. It was indeed a successful end to the Neo-PRISM-C project.

We thank everyone who participated and supported Neo-PRISM-C.

For more information and pictures, **click here**.

Clinical Psychology and Psychophysiology Lab

LEVEL-UP

The final conference and multiplayer event for "Setting the Ground for a Multi-level Approach to Developing Soft Skills in Higher Education" (LEVEL-UP) was hosted at UCY in September. The conference was set out to establish the primary findings and experiences from the project implementation. There were 155 participants, including educational administrators, students, counsellors, and other interested stakeholders.

The project's main objective was to (a) provide a new understanding of the transversal skills of students in higher education, (b) develop innovative educational material and tools for transversal skills training, and (c) integrate all the produced material in an applicable framework for transversal skills training. The project was conducted by a consortium of 4 European countries (Cyprus, Netherlands, Spain, and Greece) under the supervision of Prof. Georgia Panayiotou (PI) of the Department of Psychology, UCY and Founding Member of CAN. The project was financed by the Erasmus+ Programme of the European Union.

The first part of the conference included public presentations to communicate the project outputs and highlights of the research results (focusing mainly on outputs for the project's 'Mind the Skills Gap' evidence synthesis and background and foreground analysis) and the rationale of the systemic framework and implications from its implementation (Closing the skills gap' roadmap and 'Bridging the skills gap' study). During the second part of the conference, two demo workshops (one in Greek and one in English) were held mainly directed to university students to introduce soft skills and engage them in experiential exercises for some of these skills.

The workshops were based on the training materials from the introductory "Life Skills 101" university course, developed as part of the project, the experiential boot camps designed to practice life skills in greater depth, and a complementary app for smartphones developed as part of Level-Up to help students practice their skills at home.

Publicity

Founding Member of CAN and UCY Department of Psychology Professor Georgia Panayiotou was interviewed by 'IN Business News'. The LEVEL-UP PI discussed 'Soft' skills: From higher education to the professional world.

Click here to read the article. The article has been written in Greek.

Experimental Psychology Lab

ECVP 2023

In the summer of 2023, Prof. Marios Avraamides, the Director of the Experimental Psychology lab (EPL) and Dr. Kyriaki Mikellidou, a past Marie-Sklodowska Curie Fellow at EPL, organized the 45th European Conference on Visual Perception (ECVP) which took place in Paphos, Cyprus. The University of Cyprus, the University of Limassol and the CYENS Center for Excellence co-organized the event. The five-day event was packed with tutorials, talks, symposiums, poster presentations and social activities for 650 registered participants from 45 countries!

One of EPL's previous post-doctoral graduates, now employed at CYENS, was one of the speakers. The presentation was based on the labs' research on examining the spatial skills and brain structure of Latin dancers.

VSAC 2023

Prof. Marios Avraamides and Dr. Kyriaki Mikellidou were busy organizing another event this summer. The Visual Science of Art Conference (VSAC) is a satellite conference for ECVP. It was organized in collaboration with the University of Limassol and CYENS. The VSAC connects the communities of visual scientists and artists to deepen our understanding of aesthetic phenomena. VSAC is an ideal venue to debate and collaborate on all topics associated with the perception and evaluation of artworks.

The three-day event began with keynote speaker Claus-Christian Carbon, who spoke about 'Experiencing Art', followed by keynote Jeroen Stumpel, whose title was 'Here the thing: On perceiving objects, grounds and background in the history of art'. The remainder of the conference was full of talks, symposiums and poster/artwork viewing.

CAN Graduates

Congratulations to our 2023 PhD Graduates!
Fotini Demetriou
Constantina Demosthenous
Christodoula Gabriel
Myria Plastira and
Adamos Papantoniou

Congratulations to our 2023 researchers who successfully defended their doctorate dissertations!
Dialechti Chatzoudi
Flora Nikolaou and
Mikaella Kokkinou

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