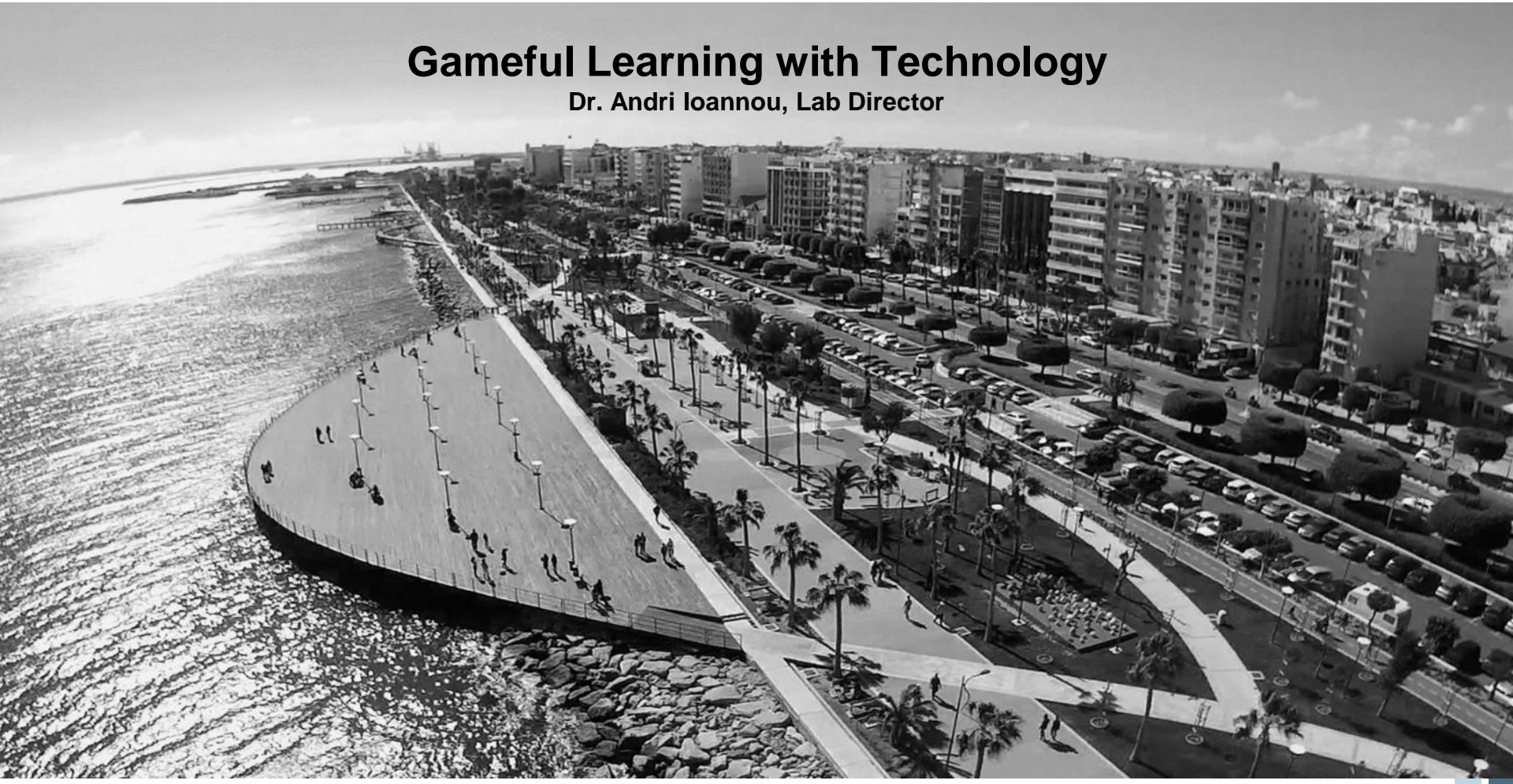# Cyprus University of Technology

CYPRUS INTERACTION LAB

Gameful Learning with Technology
Dr. Andri Ioannou, Lab Director

Cyprus Interaction Lab
the only **Human Computer Interaction and Educational Technology** lab in Cyprus

The Cyprus Interaction Lab

Academics

Andri Ioannou

**Assistant Professor
Lab Director**

Panayiotis Zaphiris

**Professor
Co-Founder**

Antigoni Parmaxi

Post Doctoral Researcher
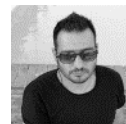

Yiannis Georgiou

Post Doctoral Researcher
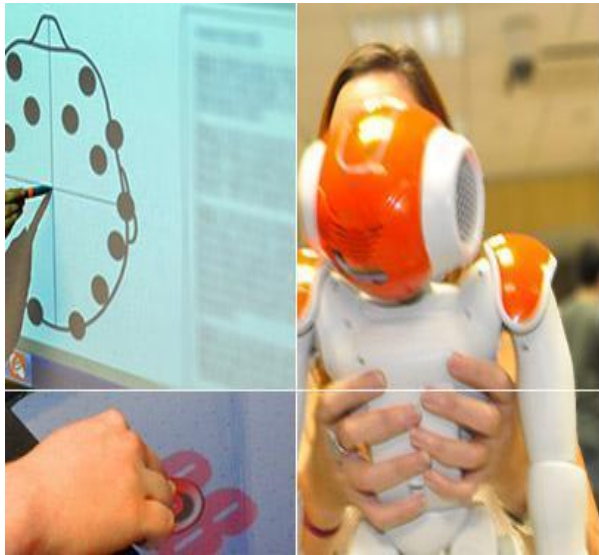

Panagiotis Kosmas

Post Doctoral Researcher

PhD Students

Staff/Researchers

Collaborating Researchers / Visiting Scholars

CYPRUS
INTERACTION
LAB

Our Facilities

Location

Cyprus Interaction Lab
Department of Multimedia and
Graphic Arts
Cyprus University of Technology

31, Le Corbusier Street
Limassol, Cyprus

Classrooms / Spaces

Interaction and Technology Lab (EAT)

Problem based learning using affordable technologies (e.g., tablets, ipods, smartphones and technological gadgets such as, SenseCam, pen-readers)

Equipment

*Usability - Accessibility - Human Behaviour*

Eye Tracking
Tracking Glasses
Mindset Brainwave Sensing headset
Neulog Sensors
Affective Q sensor
Cambridge Simulation Glasses & Gloves
BioPac System
SmartNAV

Interaction - Learning - UX

NAO Humanoid Robot
LEGO MINDSTORMS
Raspberry PI
Thymio / Microbot / Beebot
Xbox Kinect
Leap Motion Controller
Multitouch tables
Oculus Rift
Interactive Floors
Augmented Reality Glasses
3D Printer

Research at CIL aims to:

- Understand the significant supportive and mediating role of technology in promoting learning, communication, collaboration, and social change, in varied real-world contexts and settings.
- Produce and disseminate EdTech and HCI research with real-world impact.
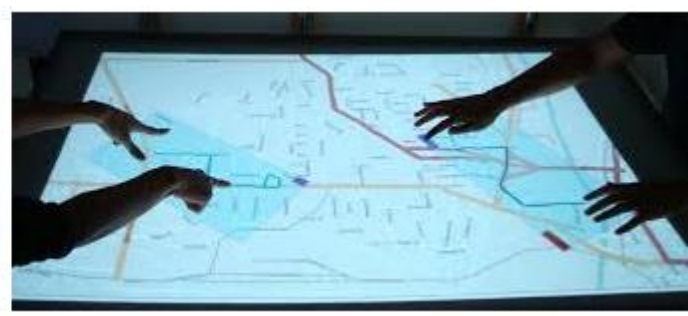
3 Research Pillars of CIL

Embodied Play and Learning

Interaction Design and Spaces

Inclusive Design

Gameful Design, Constructivist Pedagogy; Codesign with Educators/Stakeholders; Human-Centered Design; Mediating Technologies; Authentic learning environments & Real-world settings

Embodied Play and Learning

Embodied learning using motion-based technologies

Georgiou, Y., & Ioannou, A. (in press) Embodied learning in a digital world: A systematic review of empirical research in K-12 education. Citation: Learning in a digital world: A multidisciplinary perspective on interactive technologies for formal and informal education. Springer series: Smart Computing and Intelligence. Springer. In press

Gameful design for learning in socioemotional education

[e.g., Ioannou, A. (2018). A model of gameful design for learning using interactive tabletops: Enactment and evaluation in the socio-emotional education classroom. Educational Technology Research & Development: https://doi.org/10.1007/s11423-018-9610-1.]

Gameful design for dialog on sensitive topics

[e.g., Ioannou, A., Zaphiris, P., Loizides, F., & Vasiliou, C. (2013). Let's talk about Technology for Peace: A systematic assessment of problem-based group collaboration around an interactive tabletop. Interacting with Computers, doi: 10.1093/iwc/iwt061.]

Movement–based Learning using Kinect–based Games

[e.g., Kosmas, P., Ioannou, A., Retalis, S. (2018). Moving bodies to moving minds: A study of the use of motion-based games in special education. Techtrends: https://doi.org/10.1007/s11528-018-0294-5]

Embodied Play and Learning on Interactive Surfaces

[e.g., Ioannou, M., & Ioannou, A. (2018). Playing with fractions on an interactive floor: An exploratory case study in the math classroom. In J. Kay & R. Luckin (Eds.), Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences (ICLS) 2018 (Vol. 3, pp. 1635-1636). London, UK: ISLS.]

Interaction Design and Creative Collaborative Spaces

Problem–Based Learning in Multimodal Information Spaces

[e.g., Ioannou, A., Vasiliou, C., Zaphiris, P., Arh. T., Klobučar, T., & Pipan, M. (2015). Creative multimodal learning environments and blended interaction during problem-based activity in HCI education. TechTrends, 59 (2), 47-56.

A Distributed Cognition Perspective for Collaboration and Coordination

Sketching and prototyping

[e.g., Vasiliou, C., Ioannou, A., Stylianou-Georgiou, A., & Zaphiris, P. (2017). A Glance into Social and Evolutionary Aspects of an Artifact Ecology for Collaborative Learning through the Lens of Distributed Cognition. International Journal of Human-Computer Interaction, 33(8), 642-654.]

Inclusive Design and Social Change

Don't Read My Lips: Supporting Hearing-impaired Children with NAO

[e.g., Polycarpou, P., Andreeva, A., Ioannou, A., & Zaphiris, P. (2016, July). Don't Read My Lips: Assessing Listening and Speaking Skills Through Play with a Humanoid Robot. In International Conference on Human-Computer Interaction (pp. 255-260). Springer International Publishing.]

Embodied Play and Learning

Interaction Design and Spaces

Inclusive Design

Gameful Design,
Constructivist Pedagogy;
Codesign with Educators/Stakeholders;
Human-Centered Design;
Mediating Technologies;
Authentic learning environments & Real-world settings

INTELed Teacher Professional Development

October–December 2018

Instructors & Organizers:
Andri Ioannou
Yiannis Georgiou
Nicoletta Pantela

ENGINITE
PBL

October-December 2018

Instructors & Organizers
Andri Ioannou
Yiannis Georgiou
Nicoletta Pantela
Stelios Yiatros
Ioannis Vyrides
Orestis Marangos
Elpida georgiou
Charis Samanides
Maria Andronikou
Christina Achilleos
Panayiotis Andreou
Andreas Andreou

CYPRUS
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LAB

Design Sprint for Safe and Responsible Gaming

October 2018

Instructors
Panayiotis Zaphiris
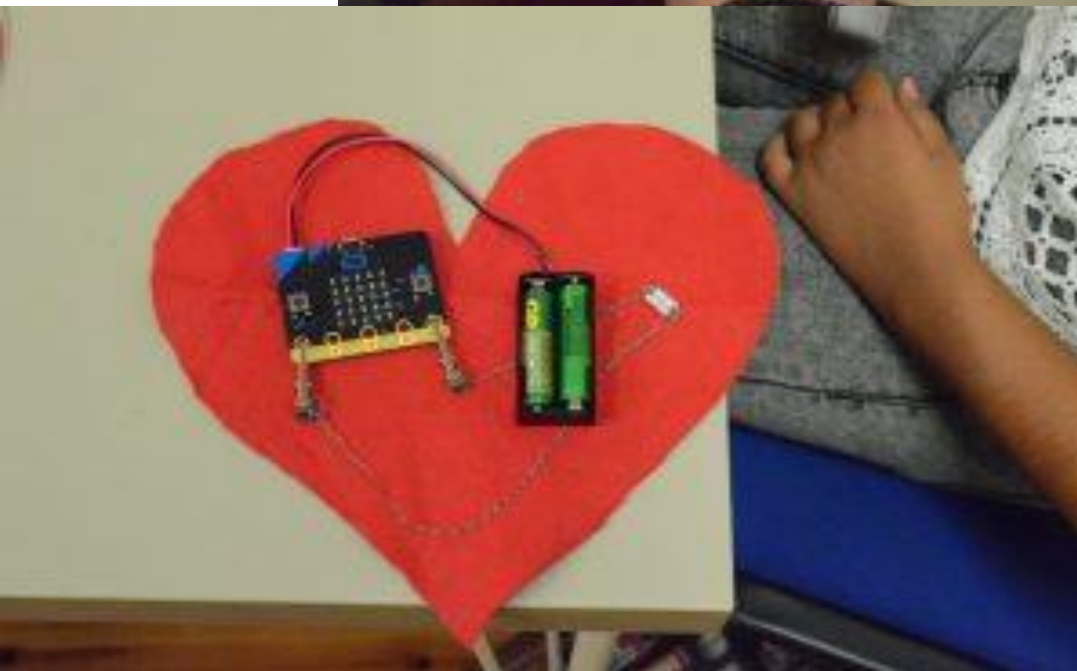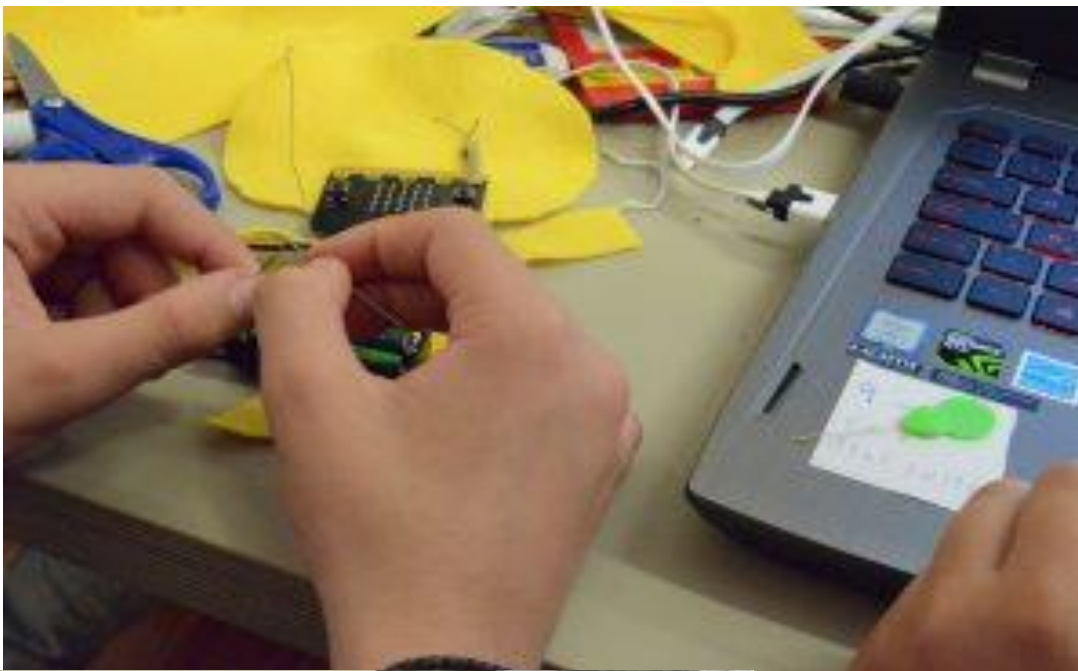Andreas Papallas

CYPRUS
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Micro:bit using e-Textiles

August 2018

Instructors & Organizers
Jennifer Rode
Andri Ioannou
Yiannis Georgiou
Stella Timotheou
Michalis Hadjitofas

CYPRUS
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LAB

WeEdR - ACM Celebrations

February 2018

Instructors
Vaso Constantinou

Educational robotics for women: mothers & daughters

CYPRUS
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ENGINITE 2017-2019 Erasmus+ KA202 (VET)

...a **new industrial-oriented postgraduate vocational training programme** using **PBL pedagogy**, which integrates

(A) **Intensive training programme** (3 months for 8 modules)

(B) **Structured internship for hands-on experiences** in the industry (3 month)

What is PBL?

1. learning is stimulated by inquiry, i.e. driven by questions or problems;
2. learning is based on a process of constructing knowledge and new understanding;
3. it is an 'active' approach to learning, involving learning by doing;
4. is a student-centred approach to teaching in which the role of the teacher is to act as a facilitator;
5. there is a move to self-directed learning with students taking increasing responsibility for their learning.

ENGINITE training program Phase 1

Call for
Young (graduates/junior) Engineers

Recruit COMPANIES
Describe the engineering profile needed (e.g.,chemical)

Trainers gather ideas
from the companies for possible PBL porject

INITIAL ASSESMENT →

WEEK 1 [ONLINE]

INDUCTION

Upload PBL Methodology induction and PBL related material for:

COURSE 1
COURSE 2
COURSE 3
COURSE 4

WEEK 2-5 [F2F]

SOFT SKILLS

WEEK 2 COURSE 1
WEEK 3 COURSE 2
WEEK 4 COURSE 3
WEEK 5 COURSE 4

PART 1A: Employability enhancement & managerial skills

ASSESMENT →

WEEK 6 [ONLINE]

INDUCTION

Upload content and related PBL material for:

COURSE 5
COURSE 6
COURSE 7
COURSE 8

WEEKS 7-10 [F2F]

TECHNICAL KNOWLEDGE

WEEK 7 COURSE 5
WEEK 8 COURSE 6
WEEK 9 COURSE 7
WEEK 10 COURSE 8

PART 1B: Technical knowledge enhancement

ASSESMENT →

WEEK 10-11 [ONLINE]

FINAL PROJECTS

Teams choose a problem from those tackled in the 8 courses to prepare a more in-depth solution supervised by the trainers (feedback loop in week 11, finalized work and presentations in week12)
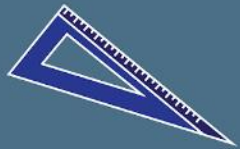
PROJECT ASSESMENT →

enginite

ENGINITE training program Phase 2

MONTH 1 [WORKPLACE]	MONTH 2 [WORKPLACE]	MONTH 3 [WORKPLACE]
INDUCTION	**PROJECT 1**	**PROJECT 2**
Getting engineer to know the operations, equipment, process of the Company	Engineer to work on small scale projects as indicated by his/her mentor & company representative	Engineer to work on self initiated project in collaboration with his/her mentor & company representative

PART 2: Structured Internship

EVALUATION via questionnaires for young engineers and trainers

Trainers will assume mentoring roles in Enginite phase 2, to supervise the internships per GuidEBOOK FOR MENTORS (03)

e.g., each trainer will be responsible to support 1-2 trainees.

enginite

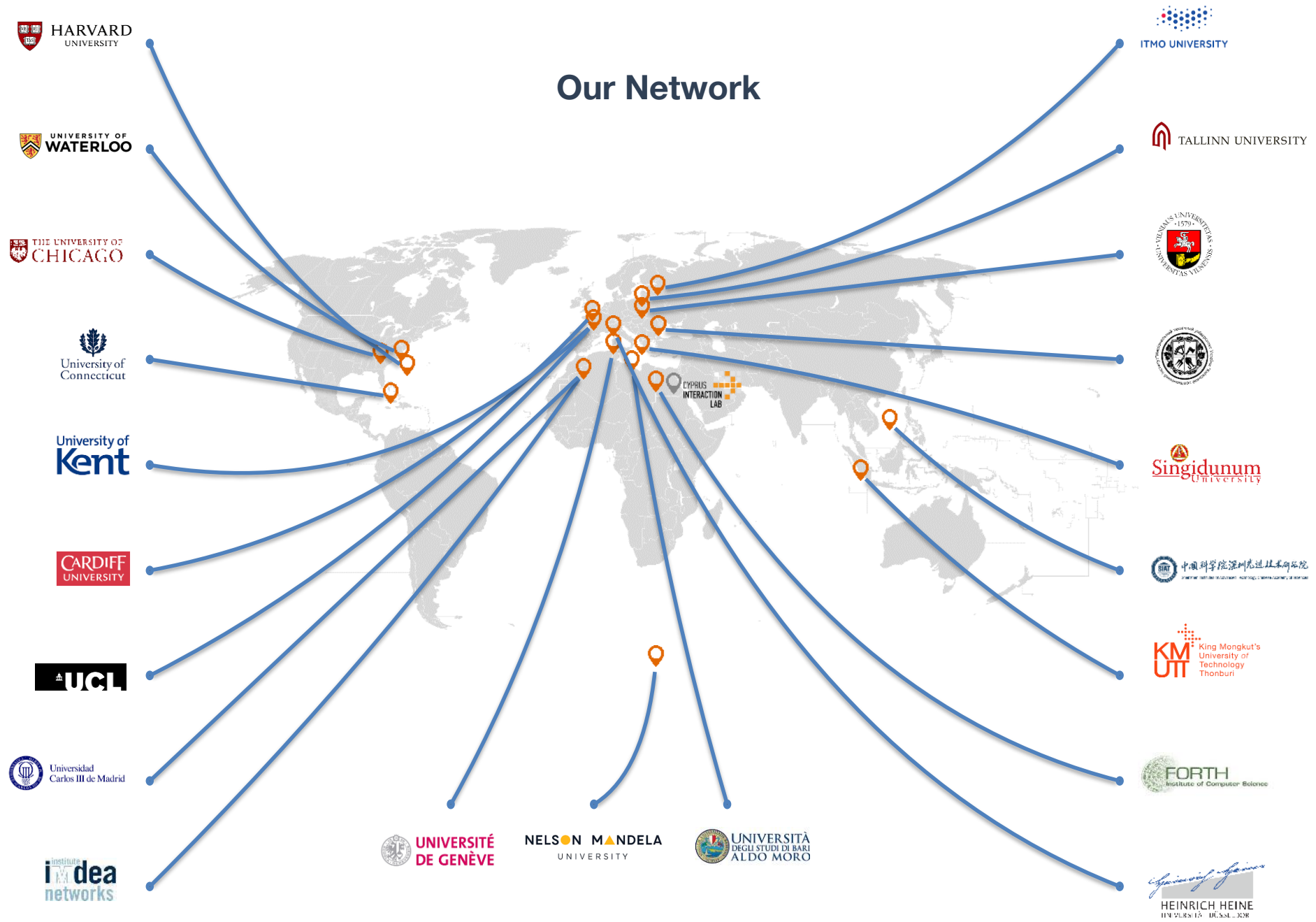# A snapshot of the training courses in Cyprus

ENGINITE

ENGineering and INdustry
Innovative Training
for Engineers via PBL

Our Network

Past Projects

Research Projects funded by

NETWORK FOR SOCIAL COMPUTING RESEARCH [NOTRE] 2016-2018

H2020 - Twinning
notre.socialcomputing.eu

CAPACITY-BUILDING TRAINING ON MIGRATION, ENVIRONMENT AND CLIMATE CHANGE [CATER]

EIT / CLIMATE - KIC
notre.socialcomputing.eu

RATIONING – MISSED CARE: An international and multidimensional problem [RANCARE] 2016-2018

Cost Action CA15208
www.rancare-action.eu

CYBERPARKS 2014-2018

Cost Action TU1306
cyberparks-project.eu

Past Projects

Research Projects funded by

TOWARDS THE INTEGRATION OF TRANSECTORIAL IT DESIGN AND EVALUATION [TWINTIDE]

Cost Action IC0904
twintide.org

MULTITOUCH INTERACTIVE TABLETOPS FOR COLLABORATION AND PEACEMAKING [PEACETABLE] 2011-2013

CUT Academic Start-Up Grant

MULTILINGUAL AND MULTIFACATED INTERACTIVE INFORMATION ACCESS [MUMIA] [2012-2014]

Cost Action IC1002
mumia-network.eu

CREATIVE MULTIMODAL INFORMATION SPACES FOR PROBLEM BASED LEARNING [INFOSPACES] 2012-2014
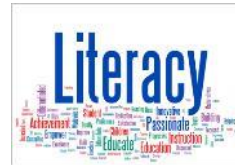
Cyprus Research Promotion Foundation Grant

CYPRUS INTERACTION LAB

Past Projects

Research Projects funded by

WOMENPOWER [WE-ME] 2014-2015

ACM Women
www.womenpowerproject.eu

STRENGTHENING EUROPEANS' CAPABILITIES BY ESTABLISHING THE EUROPEAN LITERACY NETWORK 2014-2016

Cost Action IS1401
is1401eln.eu

PLAY FOR CHILDREN WITH DISABILITIES [LUDI] 2013-2016

Cost Action TD1309
ludi-network.eu

LIMASSOL – ONE CITY, THE WHOLE WORLD [TAME] 2016-2017

Limassol Municipality
YE/YA/TAME/02.2015

CYPRUS INTERACTION LAB

Current Projects

Research Projects funded by

MIGRANT INFORMATION CENTRES [miHUB] 2016-2020

EC ASMIF (90%), RoC (10%)
mihub.eu

ENHANCING SECURITY AND PRIVACY IN THE SOCIAL WEB [ENCASE] 2016-2020

H2020 - MSCA
encase.socialcomputing.eu

INNOVATIVE TRAINING NETWORK ON PARTICIPATORY MEMORY PRACTICES [POEM] 2018-2022

H2020 - ITN

RESEARCH CENTRE IN INTERACTIVE MEDIA, SMART SYSTEMS AND EMERGING TECHNOLOGIES [RISE] 2015-2016; 2017-2024

H2020 - TEAMING_STAGE 2
www.rise.org.cy

Current Projects

Research Projects funded by

CENTER FOR STEAM EDUCATION RESEARCH, SCIENCE COMMUNICATION AND INNOVATION [CSRC] 2017-2018

H2020 - TEAMING _STAGE 1

INNOVATIVE TRAINING VIA EMBODIED LEARNING AND MULTI-SENSORY TECHNIQUES FOR INCLUSIVE EDUCATION [INTELED] 2017-2019

Erasmus+ Key Action 02

ENGINEERING AND INDUSTRY INNOVATIVE TRAINING FOR ENGINEERS [ENGINITE] 2017-2019

Erasmus+ Key Action 02

SUSTAINABLE URBAN GOVERNANCE THROUGH AUGMENTED REALITY [SUGAR] 2019-2020

RPF - RESTART 2016-2020 - INTERNATIONAL/USA