



# INSTITUTE OF DIGITAL GAMES

## Report on the Activities of the Institute 2012-2017

### Overview

The Institute of Digital Games (IDG) was established in 2013 at the University of Malta to deliver world-class, postgraduate education and research in game studies, game design and game technology. The following sections report on the main areas of operation and highlights core aspects of IDG's academic output since the establishment of the Institute in 2013.



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## MSc in Digital Games

The Institute of Digital Games has been ranked amongst the top 25 post-graduate programmes for Game Design by the Princeton review in 2017. A status we hope to maintain and improve upon for the next few years.

Our MSc has grown substantially and over the course of the first 5 years it has managed to maintain a healthy intake (with respect to numbers and student quality). In 2012 (under MaKS) we started with 5 students but we have since then managed to receive a minimum of around 15 applications a year (our peak was 24 applications in 2013). See figure 1 - IDG student admissions for the detailed numbers. After a decline in applications the Institute has revised its communications and outreach strategy, this has clearly paid off dividends as the applications have increased to near the highest point in its short history. We're looking to build on the existing communications strategy and increase applications over the coming years.

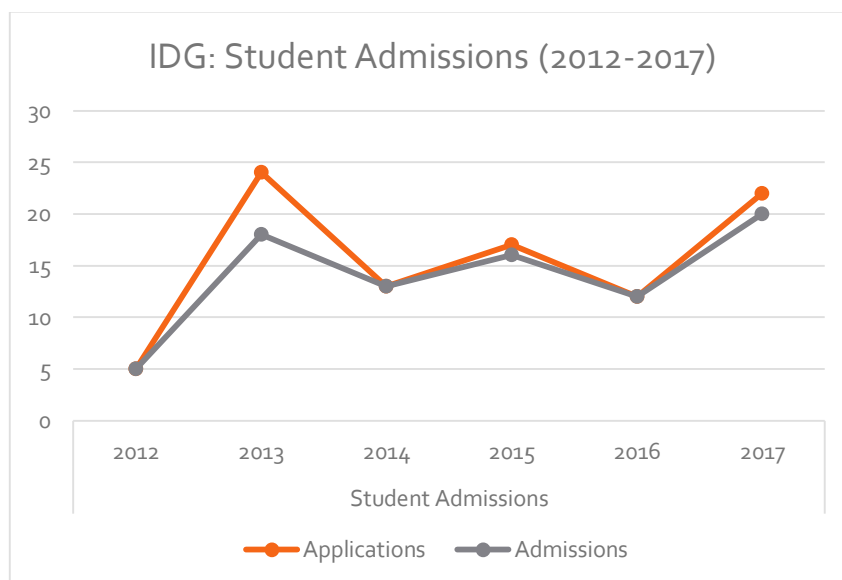


FIGURE 1 - IDG STUDENT ADMISSIONS

A recurrent point raised by the students is the difficulty level of the course and the intense workload we place upon them. This is difficult to avoid since they are engaging with at least one and up to three new disciplines they have never interacted with earlier in their education. Computer Scientists engaging with theory or philosophy require a ramp-up period that we cannot afford to give with a three-semester course that involves a whole new other discipline: game design. Nevertheless, the ones that continued with the M.Sc. are coping with the workload. It is, however, clear that juggling the course and a full-time job is extremely challenging, especially at postgraduate level where expectations are significant.

**Looking ahead**, one of our principal goals is to increase the amount of applicants to the MSc with a view on eventually capping at 30 rather than 20 students. The first step is, however, to attract enough quality applicants to be able to take in 20 high-quality students. We feel the need to foster and mould our future PhD track from the cohort of students that are more interested in

an academic path than an industry one. In 2017, we've taken our first step, however more applicants are required for us to achieve the target quality.

## Publications

The staff at the Institute have been prolific in their research ventures over the years. Since 2013, IDG staff has collectively managed to publish a total of **128 peer-reviewed publications (almost a paper per week!)**

In particular, we have published

- 2 Book
- 4 Edited books
- 24 Book chapters
- 29 Journal articles
- 110 Conference and workshop papers

Please see the Appendix A: Publications for 2013-201 for a full list of the Institute's research output.

The Institute has a healthy publication output. We estimate that the University of Malta has published 4710 papers (between 2013 and 2015) and the IDG has 128 of these. This results in a very high ratio of papers to academics. Comprising about 0.6% of the University's academics (Counting only resident academics)<sup>1</sup> and the IDG produced about 3% of the University's total papers.

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<sup>1</sup> UoM had on average 933 resident academics and an average of 738 visiting academics between 2012 and 2016. The IDG has an average of 5.3 academics in the same period (not counting 2012 as the IDG was not set up yet).

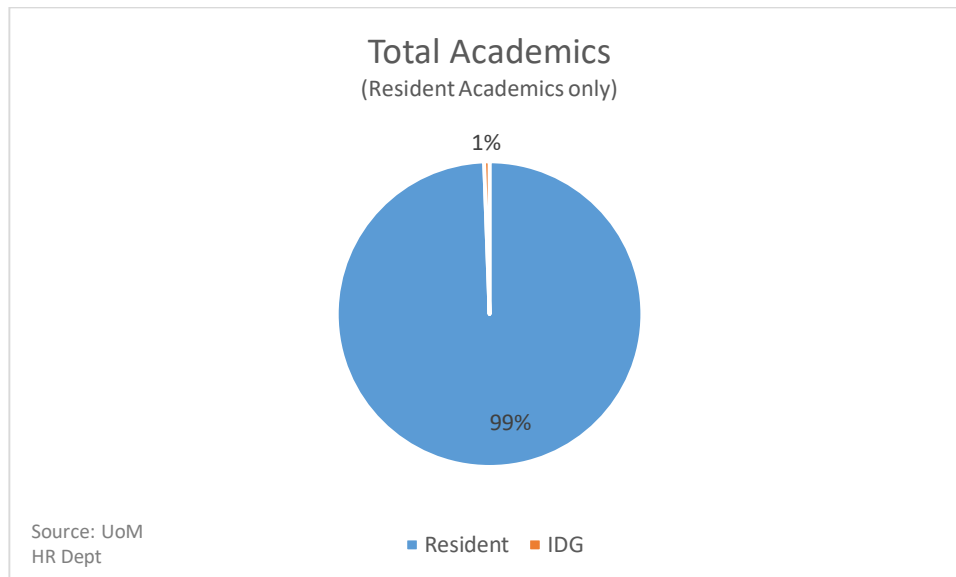


FIGURE 2 - RESIDENT ACADEMICS TOTALS

## Keynotes

Over the last 3 years IDG members have been invited to give a total of **17 keynote talks** in top-tier international conferences and about **40 invited talks** in various meetings, events and academic institutions across the globe. Please refer to Appendix B: Invited Talks for 2013-2017 for a detailed list of Keynotes and other Invited Talks.

## Awards and Honours

IDG researchers have won the following awards during the first three years of operations.

- **Best Paper Award:** G. N. Yannakakis, R. Cowie, and C. Busso, “The Ordinal Nature of Emotions,” in *Proceedings of the Seventh International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2017.
- **IEEE Transactions on Affective Computing -- Most Influential Paper Award:** G. N. Yannakakis and J. Togelius, “Experience-Driven Procedural Content Generation,” *IEEE Transactions on Affective Computing*, vol. 2, issue 3, pp. 147-161, 2011. (Selected from **168 papers published during the 5 first years** of the journal.), 2015
- **Best Paper Award:** A. Liapis, C. Holmgard, G. N. Yannakakis, and J. Togelius, “Procedural Personas as Critics for Dungeon Generation,” in *Proceedings of Applications of Evolutionary Computation*, 2015.
- **Stibo-Foundation Award** for doctoral studies (**96000 DKK**) – for the doctoral work of Christoffer P. Holmgard.
- **Best Paper Award:** A. Liapis, G. N. Yannakakis, and J. Togelius, “Designer Modeling for Sentient Sketchbook,” in *Proceedings of the IEEE Conference on Computational Intelligence and Games*, 2014. IEEE.

- FP7 Marie Curie CIG *AutoGameDesign* project ranks **1<sup>st</sup> out of 1102** grant proposals across all disciplines with an evaluation score of 97.2 out of 100, 2014.
- **IEEE CIS Outstanding TCIAIG Paper Award** for the paper: N. Shaker, G. N. Yannakakis and J. Togelius, “Crowdsourcing the Aesthetics of Platform Games,” *IEEE Transactions on Computational Intelligence and AI in Games*, vol. 5, issue 3, pp. 276-290, 2013.
- **European Learning Game of 2013 Award**: The SIREN Game. Games and Learning Alliance (GALA) Network of Excellence, 2013. (Rilla Khaled was the lead designer of the game; Georgios Yannakakis and Antonios Liapis contributed to the design).
- **Best Student Paper Award**: A. Liapis, G. N. Yannakakis, J. Togelius: “Towards a Generic Method of Evaluating Game Levels,” in Proceedings of AAAI Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE), 2013.
- **Best Paper Award**: A. Liapis, G. N. Yannakakis, J. Togelius: “Enhancements to Constrained Novelty Search: Two-Population Novelty Search for Generating Game Content,” *Proceedings of Genetic and Evolutionary Competition Conference (GECCO)*, 2013.

## Notable award nominations

The game *Will Love Tear Us Apart* was nominated for a Webby Award - Games Category in 2014, an Experimental Award at SXSW Interactive in 2014 and an Innovation Award at the Festival Du Cinema Nouveau, Montreal, in 2013.

The work of Yannakakis, Liapis and Martinez has collectively been nominated **two more times** for a best (IEEE CIG 2013) and an outstanding (ACM ICMI 2014) paper award.

## Funded Projects

The IDG has been particularly strong in attracting projects and funding to the University. From the outset when the Institute was set up in Malta we brought two major funded projects (C2Learn and iLearnRW) that started upon our arrival. Since we've been in Malta we've applied for other projects and been successful in most applications. However, we have experienced a considerable increase in administrative work when compared to previous institutions when dealing with various project-related processes. Moreover we have experienced high difficulties in manning the projects with high qualified personnel (on the PhD level). It has been exceptionally challenging to attract good quality PhD applications at IDG and we believe this is, in part, due to the early years of IDG and, in part, due to the position of Malta and UoM on the world (educational) map.

In summary, IDG researchers have managed **to attract more than 1.7m Euro** to fund their research activities at UoM during the first 3 years of operations. Putting the funding attracted in perspective can be done on a per academic basis, namely the Institute which comprises less

than 1% of the University Academics has been able to attract over 7.1% of the total funds the University has attracted over the period of 2012-2016. Note that during that period the IDG was also not yet set up until after 2013.

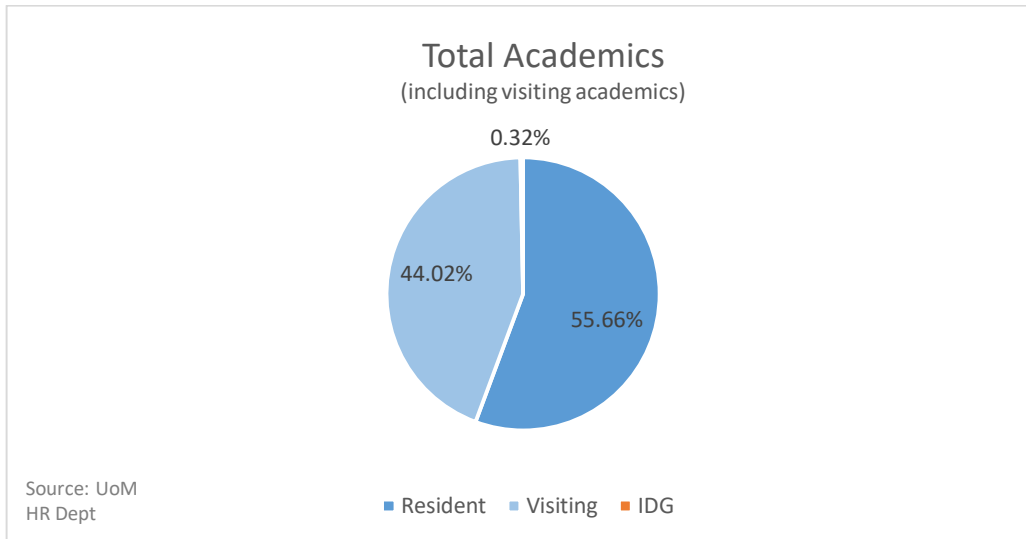


FIGURE 3 - TOTAL ACADEMICS UoM

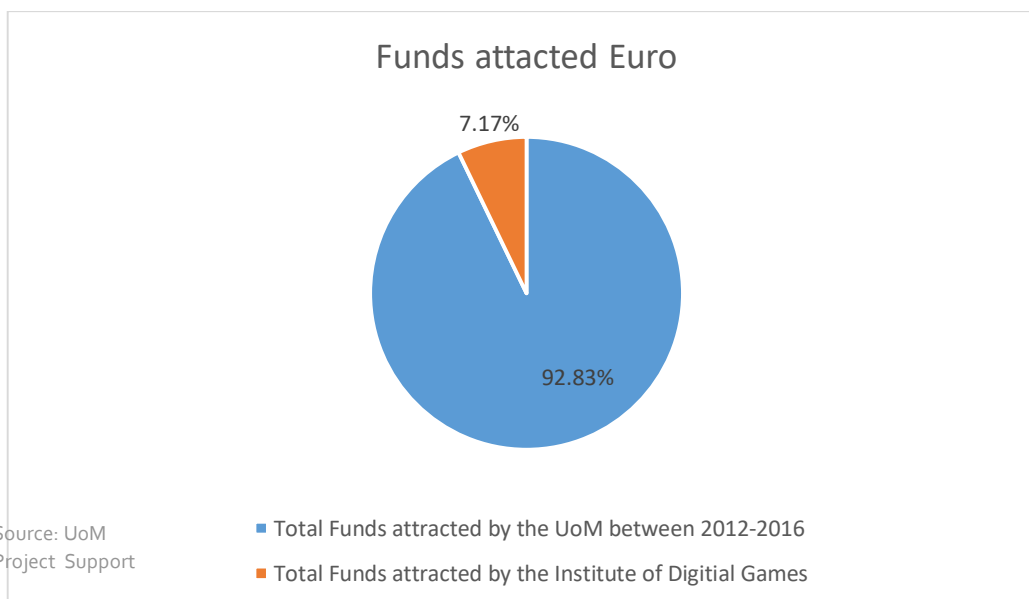


FIGURE 4 - FUNDS ATTRACTED

The IDG has established a strong background in research which has enabled them to attract a number of significant research projects, in part due to their high-calibre PhD students and the prominence of existing researchers. Furthermore, the IDG is open to collaborating with the various different and interrelated departments of the University to ensure that their projects have the right skillset and involve the right stakeholders. An example of this, is the recent collaboration with the ICT department in the high profile eCrisis project, where game-based learning will be used to foster the development of social, civic and intercultural competences

such as conflict resolution, creative thinking, and reflective debate in primary and secondary education students.

The strength of the IDG in attracting funding for the University is particularly evident when taken on a per academic basis. With an average of 5.3 academics over the 2012-2016 period the IDG has managed to attract 1,976 million in funding or just over 370 thousand per academic.

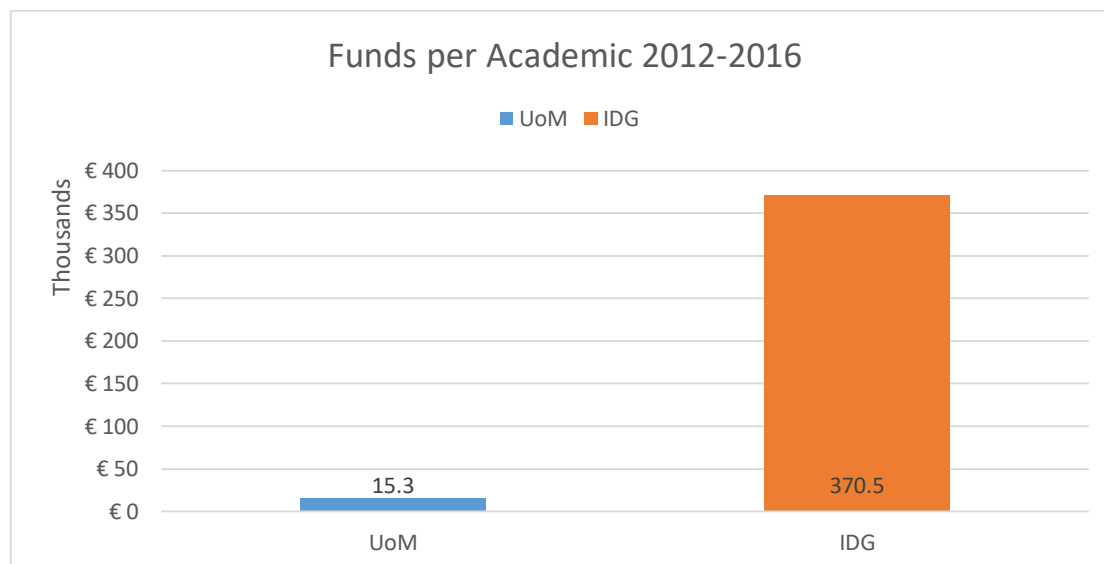


FIGURE 5 - FUNDS PER ACADEMIC

## Completed and Ongoing

The following is a list of IDG funded projects that are completed, currently ongoing or pending a review:

### Completed

- Rilla Khaled has been awarded and completed the **FP7 Marie Curie CIG REFLECT project (€100k for UoM)** from 2013 – 2017.
- Georgios Yannakakis managed and completed the **FP7 ILearnRW project (€430k Euro for UoM)** which run from 2012 – 2015. Other involved researchers: Rilla Khaled and Hector Martinez.
- Georgios Yannakakis managed and completed the **FP7 C2Learn project (€520k Euro for UoM)** which run from 2012 – 2015. Other involved researchers: Mirjam Eladhari, Antonis Liapis and Phil Lopes (PhD student).
- G. Yannakakis and A. Liapis coordinated and completed the University of Malta Research Innovation and Development Trust project **Deep Design (€7k for IDG)** which run from 10/2016 to 10/2017

- IDG was part of **EUCROMA project** (2012 – 2013) which is part of the MEDIA Programme, Story Worlds education, involving cooperation between several European Universities.

## Ongoing

- G. Yannakakis and A. Liapis manage the **H2020 Envisage Project**. Project Partners: Centre for Research & Technology Hellas (GR), Ellinogermaniki Agogi (GR), goedle.io Gbmh (DE), Aalborg University (DK). Total budget: **€215k for UoM**
- G. Yannakakis and A. Liapis are coordinating the **H2020 CrossCult project**. Project Partners: Luxembourg Institute of Science and Technology, Centre Visuel de la Connaissance sur l'Europe, Universidad de Vigo, Universidad de Peleponnese, University College of London, University of Malta, Centre National de la Recherche Scientifique, The National Gallery London, Technological Educational Institute of Athens, GVAM, Università degli studi di Padova. Total budget: **€291k for UoM**
- Georgios Yannakakis manages the **eCrisis Project: Europe in Crisis**. Project Partners: University of Malta, National Technical University of Athens, University of Vienna, Ellinogermaniki Agogi, and St. Ignatius College. Total budget: **€136k**
- Stefano Gualeni, Marcello Gómez Maureira, Philip Bonanno manage **FORETELL: Flood and Fire Safety Awareness in Virtual Worlds**. Project Partners: Hellenic Open University in Greece, Felcos Umbria in Italy, University of Malta, and the Fire Safety and Civil Protection Directorate in Bulgaria. Total budget: **€243k**
- S. Gualeni is the main investigator for University of Malta Research Fund project: **'Game Design as a Transformative Practice'** ('GADTAP')
- Gordon Calleja manages the **GoGoGozo Erasmus+ project**. Project partners: University of Malta, the University of Manchester, Warwick University, Utrecht University and Palacký University Olomouc. Total budget: **€210k**.
- Georgios Yannakakis has been awarded the **FP7 Marie Curie CIG AutoGameDesign project (€100k for UoM)** which runs from 2014 to 2018. The application was ranked 1<sup>st</sup> out of 1102 proposals in the EU.
- Georgios Yannakakis is currently the coordinator of the **Reach High AutoSemanticGame** project (**€200k for UoM**) which was awarded to the postdoctoral fellow Owen Sacco. The project will run from 2016 to 2019.
- S. Gualeni is the coordinating the **CURIO** Erasmus project which runs until end of 2018. Total Budget: **€120K (38K for UoM)**

## Funded Projects contributing to IDG and UoM indirectly:

- The Institute has secured funding from the Art Fund to bring prominent industry professionals to speak at the Game Jam and to judge the award of the Malta Digital Game Fund. Furthermore, assigned IDG staff will be mentoring the teams involved
- Gordon Calleja secured an Art Fund grant to develop the *Posthuman* game.
- Rilla Khaled and Pippin Barr: *Initiative for Indigenous Futures*. SSHRC Partnership Grant funded at CAD\$2.5M for 7 years. Role: Co-investigator. (Principle investigator: Dr. Jason Lewis.)
- Rilla Khaled. Internal Concordia fund: *Reflective Game Design* (2015 — 2017)

## Under review

- All members of staff have been and are currently involved in numerous project proposal applications. The Institute receives a great deal of invitations to join project consortia showcasing its establishment and recognition in the European game research scene.
- We are proud to have hosted and trained some of the most influential researchers in the field of game technology that now hold prestigious positions in other universities or in the industrial sector. Indicatively, Dr Christoffer Holmgaard, a postdoctoral fellow with the H2020 Envisage project was recently appointed Assistant Professor at the College of Arts, Media and Design, at the Northeastern University. Dr Phil Lopes, a PhD student of IDG secured a position as a postdoctoral researcher at the University of Geneva a few months before his PhD defence. Dr Hector Martinez, a postdoctoral fellow with the FP7 iLearnRW project is a lead data scientist at Massive Entertainment (Ubisoft Studio in Malmo, Sweden). Dr Amy Hoover, a postdoctoral fellow with the FP7 C2Learn project is now Assistant professor at the New Jersey Institute of Technology. Finally Dr Antonios Liapis, a postdoctoral fellow of IDG with the FP7 C2Learn project is now a Lecturer at IDG.

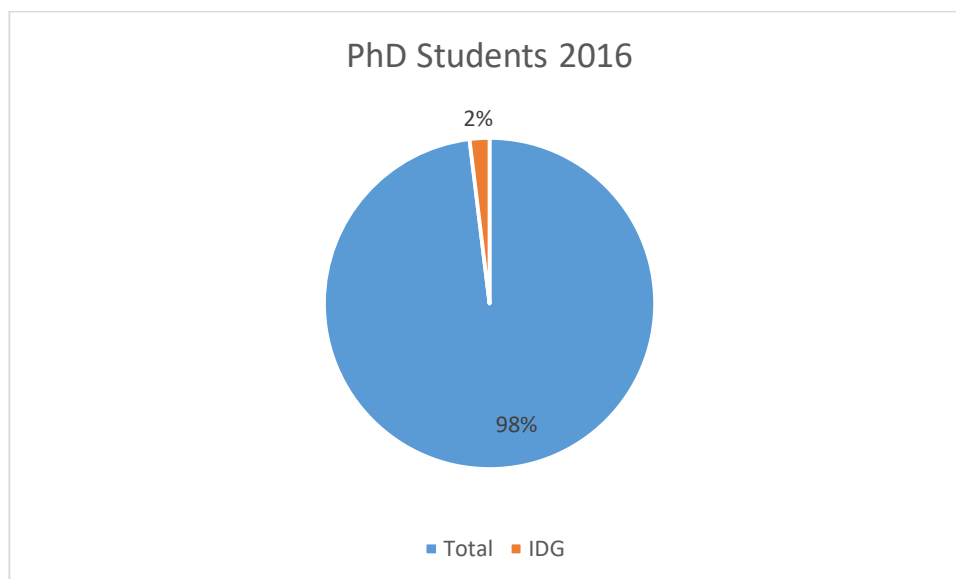
## Game Research Training

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## PhD Students

Over the years we have received a considerable amount of requests for students to do their PhDs with us from Malta and elsewhere. We have established our PhD board and **we currently have 7 PhD students (Costantino Oliva, Marcello A. Gomez Maureira, Daniele Gravina, Daniel Karavolos, Renata Ntelia, David Melhart, Melinda Sue Borg)**. We also have **one PhD student (Jessica Rose Marcotte) affiliated with Concordia University** and supervised by Rilla Khaled. Our expertise in this area is strong and we are able to attract high-quality PhD students and this is an area that could lead to greater international recognition for the Institute.

Demonstrating the strength of our PhD programme is the amount of PhD students the Institute has when compared globally to the Academics at the University of Malta. When taking into account both Resident and Visiting Academics the IDG makes up less than 1% of the total academics, however has 2% of the total PhD students.



Finding sources of income (on top of the local scholarships) for such students to sustain themselves while in Malta is necessary. Right now we are restricted to local students and foreign students that have the resources to be self-financed for the three years or that have a scholarship from another country. The extension of our PhD programme depends strongly on the funds available (which we try hard to obtain from EU and national resources). **PhD training is a core focus of the Institute.**

The Institute has recently signed an agreement with Maltco for research funding which could help to support PhD students in specific areas of research. Agreements with industry such as these are one of the ways the Institute is exploring to ensure that students are able to focus on their research.

We have also undertaken another initiative to attract good PhD students to Malta and put our name on the map with regard to doctoral education. The Institute of Digital Games is part of the EPSRC Centre for Doctoral Training in Intelligent Games and Game Intelligence (IGGI) <http://www.york.ac.uk/news-and-events/news/2013/iggi/> This is a program in PhD training in game technology/design coordinated by York University, Goldsmiths and Essex (involving many companies and Universities in Europe). Being partners in this program means that in the next 5 years IDG will host a number of PhD students for different periods, co-supervising their activities.

## Research Visitors

Over the last 5 years the institute has managed to attract the interest of several academics, researchers and PhD students that spent some considerable time in Malta collaborating with members of the Institute. Most notably we had the following visits

- **3 Sabbaticals:** Prof. Thomas P. Runarsson, University of Iceland, Iceland (2014); Dr Carlos Martinho, INESC-ID, Portugal (2014), Prof. Jean Claude Martin, Paris South University (2013).

- **1 Academic Erasmus Visit:** Prof. Mark Grimshaw from Aalborg University. Activities conducted: Guest lecturing, student supervision, research meetings.
- **2 Extended Research Visits:** Claire Dormann from Ottawa University (2014) and Nicholas Ward from University of Limerick (2014)
- **4 Visiting PhD students:** Mario Madureira Fontes (2015; Pontifical Catholic University, Brazil), Christoffer Pedersen Holmgaard (2014; IT University of Copenhagen), Antonis Liapis (2013-2014; IT University of Copenhagen), Eva A. Alblas (2015; Behavioral Science Institute of the Radboud University of Nijmegen).
- **1 Fullbright Scholar** – in 2018 we're expecting to host a Fulbright Scholar, Theresa Devine (Arizona State University)

## The Institute and the Rest of the University

Although we have been very busy setting up the Institute during the first two years, we have made our best efforts to contribute to other parts of the university. We feel that by now we have built good bridges with several faculties and institutes on both research and teaching fronts. Below we give an account of our members' interactions and intra-University networking, to give a sense of the spread and reach we have managed to cover so far.

### Courses Taught Outside IDG

- Costantino Oliva has been teaching the "Introduction to Digital Game Studies" study unit, 4 ECTS, **MaKS**. Taught in full from 2013 to 2015.
- Costantino Oliva has been teaching the "Game Design and Conceptualisation" study unit, 4 ECTS, **MaKS**. Taught in full in 2015.
- Costantino Oliva has been contributing to the "Communication Overview" and the "Professional Practice" study units, **MaKS**. 7 hours guest lecture each year from 2013 to 2015
- Costantino Oliva has taught a guest lecture on the MA of Fine Arts in Digital Arts and delivers several lectures on the Introduction to Game Design course at the **Faculty of ICT**. Costantino also supervises students from **MaKS**.
- Georgios Yannakakis and Antonios Liapis have been teaching parts of two undergraduate courses on the Artificial Intelligence Department, **Faculty of ICT** throughout the five years of the Institute.
- Antonios Liapis gave a level design seminar in the **Department of Built Environment**, UoM (2015).
- Daniel Vella gives 3 undergraduate and graduate courses (*Practical Criticism*, *Synoptic Study-Unit 2* and *Electronic Literature*) in the **Department of English** since 2014.
- The analysis strand of our MSc in Digital Games is also offered as an elective to the **MA in Media and English Programme**.
- The courses *Game Artificial Intelligence* and *Affective Computing* of our MSc in Digital Games are also offered as an elective to the **MSc in Signal Processing and Machine Learning, Faculty of ICT**.
- Several of IDG members have taught and currently teach on **MaKS'** "Communication Overview" course.

## Supervised Theses outside IDG

- Georgios N. Yannakakis has supervised 3 Bachelor Theses and an MSc thesis at the **Faculty of ICT**.
- Gordon Calleja has supervised 3 Bachelor's Theses for the **Department of English**.
- Costantino Oliva has supervised a Bachelor's Theses for **MaKS**
- Hector Martinez supervised a Bachelors thesis at the **Faculty of ICT**.
- Mirjam Edlahari has supervised an MSc thesis at **MaKS**.

## Other connections to the university

- Rilla Khaled has been in contact with the **Faculty of Education**, where she approached the Dean and Vanessa Camilleri and offered to provide structured games-related modules to them.
- Rilla Khaled, Hector Martinez and Georgios Yannakakis have been discussing collaborations with Albert Gatt and Ray Fabri from the **Institute of Linguistics** under the iLearnRW project.
- Georgios Yannakakis, Antonios Liapis and Amy Hoover have been contacted the **Department of Computer Science, Faculty of ICT** (Prof. Pace and his team) to discuss about potential teaching and research collaborations.
- Georgios Yannakakis has given two talks at the **Faculty of Engineering**: one organised by the IEEE Student Branch and one organized by the Department of Mechanical Engineering.
- Antonios Liapis has been discussing with Xu JingYao of the **Department of Built Environment** and Sandra Mifsud of the **Performance Studies in Dance** on collaborating in projects
- Georgios Yannakakis and Antonios Liapis collaborate with Vanessa Camilleri from the **Faculty of ICT** in the context of the **eCrisis Erasmus+ project**.
- Stefano Gualeni is collaborating with the **Cognitive Sciences Department** in the context of a Marie S. Curie H2020 application.
- Stefano Gualeni gave a talk at **MaKS – Communication Department** in Nov 2015
- Gordon Calleja has given talks at the **Department of English** (Narrative and Games) in 2013 and at the **School of Performing Arts** (Presence and Immersion, Alice and Games) in 2014 and 2015.
- Rilla Khaled Co-taught a motion-controlled games workshop: she invited Sandra Mifsud from the **School of Dance** and her dance students to attend a design workshop she organized at the IDG co-taught by Rilla and Nicholas Ward from the University of Limerick on motion-controlled games.
- Rilla Khaled gave a guest lecture for Gorg Mallia's class *Communications: An Overview*.

## The Institute and Malta

After launch, our first goal was to make connections with other entities at University and secondly to get our name known and presence felt in the rest of the country. We feel we have been successful already, given the short time we have been in operation, in putting our name out there with the most important stakeholders and crowds, ranging from industry people to other academic institutions, the crowd of creatives, and the general public.

## Events

We have been active with organizing several game events, all of which drew a very positive response. We have run the **Malta Global Game Jam four times** (2014-2017) and also organised the **Mediterranean Game Jam** for the first time in Malta in 2015. In both events participants meet and form teams to make a game in 48 hours. All events were very successful bringing further (local and international) attention to our educational program and our research agendas.



FIGURE 6 - PROMOTIONAL POSTER FOR GAME JAM 2018

The Institute has participated in **all four Science in The City events** since its establishment. In 2013, the Institute had a small participatory role. The iLearnRW project disseminated results at both the **Notte Bianca** and the **Science in the City** events during 2014. That year several games were also exhibited at the central library in Valletta giving IDG significant outreach in Malta. The Institute participated at the EU corner of the **Science in the City 2015, 2016, and 2017**, in which latest results from the *AutoGameDesign* project were presented to the general public.



FIGURE 7 - RESEARCHERS EXPLAINING WORK DONE UNDER AUTOGAME PROJECT AT SCIENCE IN THE CITY

Furthermore, we had a presence at the **Malta Comic Con**, the more game-specific **Pixiecon** organised by Pixie Software and helped organise an indie game night at Blitz art gallery, which attracted a lot of attention from the public. Gordon Calleja was involved in running an exhibition based on the *Love will tear us apart* game at St James Cavalier during **Notte Bianca** and **Science in the City**, where the Institute and University were promoted. This alone put our name out there to thousands of people in the general populace that had never heard of our existence.

Over the last two year we have also been organizing the **Indie Meetup Malta** monthly event, hosted at IDG. This a forum co-organized by IDG and Malta Independent Game Development Association (Dirk Schembri) that aims to strengthen the interconnections between indie developers in Malta.

## Popular Science Talks/Press/Articles

- Davis A., 'Rise of the Ancients' by David Chircop (M.Sc. student), **Think** magazine, Issue 9, 2014
- Davis A., 'Why So Serious?', **Think** magazine, Issue 9, 2014
- Calleja, G., 'Through the Looking Glass', Dr. Sedeer El-Showk, **Think** magazine, Issue 6, 2013
- Galleja G., 'FundMalta', 100 word ideas to change Malta by Prof. Gordon Calleja, **Think** magazine, Issue 9, June 2014
- Gualeni's S. His work on game design as a self-transformative practice will appear in the upcoming (Winter 2015) issue of **Think** magazine
- Gualeni, S. 'ONTOLOGIE AUMENTATE: Ovvero, come fare filosofia con un martello digitale', an article in Italian that appeared on the 4th number of *!Nsight*, a periodical publication of the Accademia di Belle Arti di Roma (Oct-2014).

- Gualeni, S. Articles and blogposts are often published on **Gamasutra.com**, one of the leading websites concerning game design and game development in general.
- Khaled R. Dyslexia, Thinking outside the box, **Malta Today**, 2014
- Khaled, R. *Dyslexia and Games: Learn Better?* Talk at the **Café Scientifique Event** in Valletta about her game design work at the *Words Matter* game (funded under the iLearnRW project). 2015.
- Oliva C. Regular digital games column on **Think** magazine since 2014.
- Schellekens, J. “You Don’t Know What Soup Is” **Think** magazine, Issue 20. 2017.
- Schellekens, J. “Game Against the Machine” **Think** magazine, Issue 22. 2017.
- Schellekens, J. “Maltese video Game Draws International Attention” **Times of Malta**, 29 October 2017.
- Yannakakis G. “Is there really an app for that?” **Think** magazine, September 2015.
- Yannakakis, G. “I Compute, I Create, I Am. Magazine Feature Article” **Think** magazine, March 2015.
- Yannakakis G. “Education through digital games” **Times of Malta**, 24 August 2014.
- Yannakakis G and Khaled R. “What’s in a Game” **Malta Today**, 08 July 2014.
- Yannakakis, G. “Game recognises emotional reactions of players” **Times of Malta**, 28 June 2013.
- Yannakakis, G. “DeepMind dojo will train AI to beat human StarCraft players” **New Scientist**, Daily News, 9 August 2017.
- Yannakakis, G. “AI will be able to beat us at everything by 2060, say experts” **New Scientist**, Daily News, 31 May 2017.
- Yannakakis, G. “AI just won a poker tournament against professional players”, **New Scientist**, Daily News, 31 January 2017.
- Yannakakis, G. “TV reimagining the future of video games?” **Malta Business Weekly, Malta Independent**, November 3, 2016.
- Yannakakis, G. “Has a Black Mirror episode predicted the future of video games?” **The Guardian**, October 26, 2016.
- Yannakakis, G. “Europe’s quiet revolution by way of digital games?” **Times of Malta**, 21 October 2016.
- Yannakakis, G. “A virtual experience with real exercise” **The Boston Globe**, January 3, 2016
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## Evening Courses

From 2013 until 2015 we have successfully run two evening courses for Unity 3D (*Introduction for Programming for Games in Unity 3D, Game Development in Unity 3D*) that are relevant and appropriate to game development practitioners, students, and academics. The courses were co-organized with Malta University Holding Company Ltd.

Currently we are offering a Degree Plus course: *Creating Virtual Worlds* which will offer a similar level of course, covering similar topics under the umbrella of the Degree Plus programme.

## Consultancy – Advisory Roles

Gordon Calleja has been a board member of the **National Audiovisual Strategy** and advisor at the **Contemporary Art Museum**, the **Malta Arts Council** and the **Malta Game fund**. He

has also been the curator and co-organiser of **the Indie Games Exhibition** at the Science in the City and Notte Bianca events.

Stefano Gualeni was hired by the **Malta Arts Council** over summer 2015 to analyse and reform its Digital Game Fund grant, how it is awarded, and how its output in terms of quality and visibility can be maximized and validated.

Antonios Liapis will provide mentoring and consultancy to the finalists of the Malta Digital Games Fund. The consultancy will be provided on an ad hoc basis as requested by the finalists and will allow the studios to benefit from impartial feedback on their process and ideas as well as insight and troubleshooting.

The Institute of Digital Games will also be assisting in identifying high-profile, quality judges to judge the award of the **Malta Arts Council Digital Game Fund**. Winners will be announced in January 2016 during an event organised by the IDG.

## Lectures outside UoM

Over the course of the three years we have given lectures at several educational institutions in Malta. We have given several lectures at Giovanni Curmi Higher Secondary, MCAST ICT, Junior College, MCast Art and Design Institute, MCast Engineering, and MCast Technology. These talks are given on a **yearly basis** since 2013. We have also participated through Pippin Barr in judging St Martins' game development challenge. We will be soon making appearances at several private schools such as the Chiswick House School.

## The Institute and the World

The Institute staff have a great reputation abroad individually. Most of us are invited to several keynotes per year and between us we review for every major conference and journal related to game research across disciplines. This has been very helpful in our transition to Malta, bringing to the University serious visibility in both game academia and, to a lesser degree, industry. Our challenge over the years was to translate our individual profile and reputation to the Institute, University and country as a whole. The following moves have been part of this strategy.

## Notable Game releases

In 2013, we got major exposure in popular media across the globe through the incredible success of Pippin Barr's art games, particularly his being signed up by Marina Abramovic to make a series of games for her soon to be open art institute. Abramovic is one of the most famous and respected artists of our time. Pippin Barr's fame has also been very positive for us, with his inclusion of the Institute and University's name in the interviews and articles he's been part of over the year. Pippin Barr was nominated by Harpers magazine as **one of the top ten upcoming artists in the world**.

*Will Love Tear Us Apart* (Calleja, Oliva) was **covered by over 300 sites all over the world** including major art, music and cultural magazines like Rolling Stone, NME, Fact, Kotaku, Polygon and many others. Gordon Calleja also gave interviews on podcasts and radio stations worldwide. This obviously created a lot of fame that translated to Institute's and UoM's fame.

*Posthuman* (Calleja) was another major success internationally. It is one of the hottest board games out there at the moment in the thematic game genre. Aside from having **pre-sold 8500 copies before it has actually hit the shops**, it is being reviewed by all major board game outlets giving a lot of prominence to Gordon Calleja as a boardgame designer and the Institute and UoM by association.

In 2017 'Something Something Soup Something' (PC, MAC, Unix). was developed at the IDG with the support of MaltCo Lotteries in collaboration with Isabelle Kniedsted, Marcello Gómez Maureira, Johnathan Harrington, Riccardo Fassone, and Jasper Schellekens. The game received a large amount of press coverage, including a feature on one of the largest game-related websites: *Kotaku*.

The game *What We Did* co-designed by Rilla Khaled and Pippin Barr got significant exposure through several write ups of the game in "top-tier" online game sites, including: KillScreen and Rock Paper Shotgun.

## Game lectures

In spring 2014 we initiated a regular **series of game lectures** from international experts in academia and industry which have helped with our reputation as an international hub in games. More importantly, the game lecture series have been beneficial to local institutions and industry as well as researchers and students.

## Conference Organization

Part of our international outreach strategy was to hold international workshops and conferences on a regular basis. In 2013 we (Gordon Calleja and Daniel Vella) started a new conference series that was very well received called *Games and Literary Theory*, together with the Department of English and ITU Copenhagen. The conference went very well and attracted over 50 participants.

During the first 3 years, members of IDG have been involved in the organizing committees of the top-tier conferences in games research. In particular, Georgios Yannakakis and Antonios Liapis are, respectively, the Program Chair and the Local Chair of the *IEEE Conference on Computational Intelligence and Games* (2016). Liapis has also been the organizer of the second AIIDE workshop on Experimental AI in Games (2015) and the fifth FDG workshop on Procedural Content Generation in games (2015). Rilla Khaled co-organised a CHI PLAY 2014 Workshop: Participatory Design for Serious Game Design: Truth and Lies. In May 2013 we organised (Georgios Yannakakis was the general chair; Rilla Khaled was the game design track chair) one of the largest conferences in game research, the *Foundations of Digital Games*

*Conference*, part run and sponsored by Microsoft. The University of Malta had the largest number of accepted papers from any university worldwide. Our great showing there included delivering several papers, running workshops and seminars, demonstrating a game (Love will Tear us Apart) and playing a major role in the event's organization and in its reviewing. As a result Microsoft Research have approached us to potentially become one of the institutions they use to service their various game development studios. Another result of the organizational success of FDG (by far the higher number of submissions and participation in the history of the conference) is the invitation from Microsoft and the FDG board to hold the 2015 edition of the conference in Malta.

IDG members Daniel Vella and Stefano Gualeni have successfully submitted an application to host the 10<sup>th</sup> edition of the International *Philosophy of Computer Games Conference*, that was held on Malta in 2016. This is a long-running and world-leading international conference series that is being brought to Malta for the first time, attracting leading scholarship in this exciting field.

## Educational activities outside Malta

Pippin Barr has been lecturing at the Department of Design and Computation Arts, of Concordia University both at 2013 and 2015. He has so far organized and completed the courses *Game Studio I, Networks & Navigation* and *Curious Games Studio*. Stefano Gualeni is a visiting Professor of Game Design at LCAD (California, USA) for 2015.

Note that most IDG members have given several guest lectures/talks **outside Malta** promoting the Institute of Digital Games and UoM (see Appendix B for further details).

Costantino Oliva has had a departmental meeting with Aalborg University, Department of Communication and Psychology in order to explore the possibilities of an Erasmus+ agreement in between the two institutions. Another Erasmus + agreement under consideration is with Institut Supérieur des Arts Multimédia de la Manouba in Tunisia.

The Institute of Digital Games has set up a number of Erasmus agreements outlined below:

- University of Koln, Germany
- University of Trnava, Slovakia
- University of Applied Sciences, Vienna, Austria
- Bahcesehir University Istanbul, Turkey

## Summary and the Future

Overall we aim to further strengthen the reputation of the Institute internationally through our professional service, publications, collaborative projects and conference appearances and continued activities in the organization of prominent conferences, such as the conference on the *Philosophy of Computer Games* in November 2016 which was brought to Malta for the first time. Needless to say, because we operate in several fields not just one, the above requires a lot of effort from everyone in the Institute. Keeping up the level of publications and conference participation that we have this year, while coping with lecturing and other duties locally, has tried the limits of three of the staff during the first year of operations. Starting up a new world-class Institute is challenging and although we are a year further we are still transitioning from start-up to world-class institute and in this we majorly appreciate the University's support.

Becoming a world-class institute is not something that can happen overnight and it is not something that can happen without the University's continued support. Therefore, we will continue to plan in the long term anticipating the development of the education, research and games and ensuring that we remain on the cutting edge and that the University of Malta and the IDG are synonymous with excellence in education and research.

## Future Directions

The first years of operation have been quite hectic, as expected, and complicated by several logistical delays, the most major of which were out of our or anyone at the University's control. In the following years we managed to focus more on consolidating work processes, the quality and structure of the education we offer and working hard on ways in which we can attract more and better students, especially foreigners, to the University. A main goal we had set was to attract a considerable number of top-quality PhD students from Malta and abroad, an area where we have indeed garnered serious success.

Long-term priority areas remain:

### Quality and amount of MSc students: internal strategy

The top item on our priorities list is increasing the amount of quality Masters level game students. Toward that end we have invested in the marketing through the Princeton Review top 25 ranking. We have also invested in targeted advertising through StudyPortals, which after follow up has resulted in a large increase in visibility and confirmed registration of at least one student. We will continue this investment until we are confident that the quality and programme have enough renown to draw students on reputation alone.

At the start of the Msc we have also increased the semesters from 3 to 4 (to comply with international standards in graduate games education), we invited well-known researchers from academia and top game developers to give guest lectures in our courses, and we established part time and MSc by research programs.

Further we have managed to fly in internationally known speakers and local academics on a Game Lecture Series running through the year. The Game Lecture series continues this year to foster an interested community.

Aside from the internal changes we have developed a solid strategy for attracting more local and foreign applicants. We made ourselves known more at the University itself through lecturing in several departments around campus and delivering public talks. We deliver (on a yearly basis) a number of guest lectures at several institutions including: Junior College, MCAST Art and Design, MCAST ICT, St Martins, STC, ICE, Giovanni Curmi Higher Secondary and St Edwards.

When it comes to attracting more foreign students we decided to tackle this in a direct manner. Each of us was committed to going to at least one university, ideally two, per year in regions we identify as potential recruitment sources, and deliver lectures to 3<sup>rd</sup> year Bachelors students in their field. We feel this is the best way to build a good flow of students from various cities that do not have game education. We have started with targeting the Mediterranean region. We have been invited to speak at a the Institut Supérieur des Arts Multimédia de la Manouba in Tunisia. Tunisia is a large market for students and has a special agreement with University of Malta so makes an ideal starting point to reach a larger Mediterranean student body. The game design-related talent in Tunisia is significant and worth drawing into Malta.

Our methods have been successful in increasing the amount of students, however as we have plateaued around the 10-15 mark, we are expanding our outreach to new Universities. We are approaching the career advisory services and the international office of Universities. The career advisory services will be able to guide interested students to our programme and provide information at the universities themselves for the students to peruse at their leisure while they are at University. The international offices will be able to coordinate studying abroad, both for students who are looking for a short stint abroad as well as those students that are particularly interested in continuing their education abroad. The IDGs is also working on strengthening communication with the University of Malta's international office to ensure we are providing them with enough information and to ensure that we can assist them reach of to international students in the most effective way. The International Office has supported the Institute in setting up new Erasmus agreements, which will also help to bring students in from abroad. They have also assisted our MSc students with Visa complications for internships abroad. This type of support is critical as the strength of our alumni should be cultivated and experience at AAA studios can raise our student profile.

The Institute has started building links with the career counselling office of Vesalius College in Belgium, which is ideal as it offers an exclusively undergraduate programme and many of its students will be looking to continue their studies throughout Europe. The various alma matter of the lecturers and staff will be approached throughout the year to build a further referral network through the international offices and career services of the various universities.

Jasper Schellekens has also represented the University of Malta, Institute of Digital Games at a stand at the Athens Game Festival in October 2017. Leading to the generation of many leads for possible projects and student prospects. Post-event the IDG was invited to contribute on a number of projects and invited to provide information on its MSc programme to universities and colleges in Athens.

Furthermore, IDG has strengthened collaboration within the University of Malta between the Institute and the Student Advisory Services to assist in the streaming of students through the University of Malta programmes into the M.Sc. in Digital Games. Part of this involves targeting the parents of new students and removing some of the stigma still attached to a career in digital games and the idea that this is only a domain for technology students. To this end, Mr Albert Debono, Head of SAS has invited the IDG to participate in an event to meet with students and parents scheduled to take place somewhere in March-June 2017. Communications internally have already led a number of interested students to join the 2017 MSc intake and have thus been confirmed effective. The IDG plans on continuing this intense communication and collaboration internally to ensure students are aware of the quality education that is available to them locally.

## Quality and amount of PhD students

The second area of emphasis has traditionally been a campaign to create and strengthen our PhD programme. We have been head-hunting candidates we felt are going to be future stars in their field both locally and abroad and find ways to help fund their studies with us. Since a number of other countries (indeed most) offer much healthier scholarships than Malta offers we will need to source funding for this and/or create some sort of internal scholarship provided by the University. Funded projects are one potential source of income that we are already tapping into, but these are so far covering technology positions. It is far more difficult to come by in Humanities and Design areas. We would, however, like to keep a balance in our

disciplinary roots, so some legwork has to be done to find potential funding sources for these areas.

Note that our very first PhD graduate, Phil Lopes, got a post as a **postdoctoral fellow at the University of Geneva** a few months before he defended his thesis. Dr Lopes' career development is indicative of the emphasis we put on graduate education and the supervision quality we offer as an Institute.

## Premises

The IDG is scheduled to move to new premises by the start of the next semester. Meetings have been held with the architects, IT-services, procurement, and the University administration to ensure coordination on the necessary fronts. All necessary information has been submitted, however we are waiting on the confirmation to proceed from the Planning Authority.

The move is a much-needed change as Malta hopes to increase its visibility as a hub from digital games as the Institute will have a more visible presence on campus. Furthermore, the current building has issues regarding accessibility and leaks during heavy rainfall in the winter, putting equipment at risk and reducing the effectiveness of the location as a study environment.

## Summary

In summary we feel that we have been extremely productive in terms of research, teaching and public service, as well as one of the most prominent game centres worldwide. We have grown Malta's reputation in both academic circles and the industry, as we have heard from leading figures in both areas in every event we go to.

Having been ranked in the top 25 of post-graduate Game Design Programmes by the Princeton Review has put the Institute on the map as one of the best game design programmes in Europe and is helping us penetrate the consciousness of undergraduates in Europe and elsewhere that might be interested in our MSc. This is evident from the increase in interest and applications. We still are, however, having a hard time penetrating the consciousness of undergraduates in Europe and elsewhere that would be well placed in applying for our MSc programme. As a notable example ITU's programme has been shrunk, with a number of courses removed and students accepted reduced from 75 to 50 per year. They still receive over 150 applicants a year and a considerable number of those hail from the Mediterranean and Eastern Europe, which we could be attracting if we had more marketing reach. We clearly have a programme that is solid and it is a matter of continuing to communicate this and this is one of our major concerns and what we are focusing most of our efforts on currently.

## Appendix A: Publications for 2013-2017

### Books (2)

1. G. N. Yannakakis, and J. Togelius, *Artificial Intelligence and Games*. Springer, 2017
2. Gualeni, S. 2015. *Virtual Worlds as Philosophical Tools: How to Philosophize with a Digital Hammer*. London (UK): Palgrave MacMillan

### Edited Volumes/Special Issues (4)

1. Bjorn W. Schuller, Lucas Paletta, Peter Robinson, Nicolas Sabouret, and Georgios N. Yannakakis, *Intelligence in Serious Games, Special Issue at the IEEE Transactions on Computational Intelligence and AI in Games journal*, 2017.
2. Antonios Liapis, Georgios N. Yannakakis, Michael Cook, and Simon Colton, *AI-based and AI-assisted Game Design, Special Issue at the IEEE Transactions on Computational Intelligence and AI in Games journal*, 2017.
3. K. Karpouzis and G. N. Yannakakis, *Emotion in Games: Theory and Praxis*, Springer, Fall 2015.
4. G. N. Yannakakis, A. Paiva, K. Isbister and K. Karpouzis, *Emotion in Games*, Special Issue at the IEEE Transactions on Affective Computing journal, 2014.

### Book Chapters (24)

1. Calleja, G., “Game Narrative: An Alternate Genealogy” in *Digital Interfaces in Situation of Mobility*, edited by Bernard Guelton, Common Ground Press (2017).
2. Calleja, G., L. Herrewijn and K. Poels, “Affective Involvement in Digital Games”, in *Emotion in Games: Theory and Praxis*, Edited by Georgios Yannakakis and Kostas Karpouzis, Springer (Forthcoming in 2016).
3. Calleja, G. “The End: Aesthetic and Ludic Topoi in Digital Entertainment”, in *The End: Terminus in Literature, Media and Culture*, Edited by Brian Russell Graham and Robert W. Rix (with Alessandro Canossa), Aalborg University Press (2013).
4. Calleja, G., “Incorporation: A Renewed Understanding of Virtual Environment Habitation”, *Oxford Handbook of Virtualities: History and Heritage in Virtual Worlds*, Edited by Mark Grimshaw, Oxford University Press, USA (2013).

5. Calleja, G., "Ludic Identities and the Magic Circle" in *Homo Ludens 2.0: Play, Media and Identity*, Edited by Valerie Frissen, Sybille Lammes, Jos de Mul and Joost Raessens, Amsterdam University Press, Netherlands (2013).
6. Liapis A., Gillian Smith and Noor Shaker "Mixed-initiative Content Creation" in Noor Shaker, Julian Togelius, and Mark J. Nelson (2016). *Procedural Content Generation in Games: A Textbook and an Overview of Current Research*. Springer. ISBN 978-3-319-42714-0
7. Cheong, Y.-G., R. Khaled, C. Holmgard and G. N. Yannakakis, "Serious Games for Teaching Conflict Resolution: Modeling Conflict Dynamics," in Poggi et al., (Eds.), *Conflict and negotiation: Social research and machine intelligence*, 2014.
8. Drachen, A., C. Thureau, J. Togelius, G. N. Yannakakis, C. Bauckhage, "Game Data Mining," in Seif El-Nasr et al., (Eds.), *Game Analytics --- Maximizing the Value of Player Data*, pp. 205-253, 2013. Springer London.
9. Gualeni, S. (2017). "VIRTUAL WELTSCHMERZ - things to keep in mind while building experience machines and other tragic technologies". In Silcox, M. (ed.), *Experience Machines: The Philosophy of Virtual Worlds*. London (UK): Rowman and Littlefield International.
10. Gualeni, S. 2015. Playing with Puzzling Philosophical Problems. Book chapter in Zagalo, N. and Branco, P. (eds.) 2015. *Creativity in the Digital Age*. Part of the Springer Series on Cultural Computing. XIV. 59-74. London (UK): Springer-Verlag.
11. Gualeni, S. 2014. Augmented Ontologies; or, How to Philosophize with a Digital Hammer. In Springer's *Philosophy of Technology*. 2014. Edited by Luciano Floridi, Vol. 27, N. 2, 177-199. ISSN 2210-5433, Philos. Technol., DOI 10.1007/s13347-013-0123-x
12. Khaled, R. Culture and Gamification. In *The Gameful World*, MIT Press, 2014.
13. Khaled, R. Questions over Answers: Reflective Game Design. In *Playful Subversion of Technoculture*, Springer, 2015.
14. Khaled, R., Vasalou, A., and Joiner, R. Understanding and Designing for Conflict Learning Through Games. Accepted and forthcoming chapter in *Emotion in Games: Theory and Praxis*, Springer 2015.

15. Karpouzis K. and G. N. Yannakakis, "Introduction to Emotion in Games," in Karpouzis and Yannakakis, (Eds.) *Emotion in Games: Theory and Praxis*, Springer, (to appear in fall 2015).
16. Nielsen, J. L., B. F. Jensen, T. Mahlmann, J. Togelius and G. N. Yannakakis, "AI for General Strategy Game Playing," in Angelides and Agius (Eds.), *Handbook of Digital Games*, pp. 274-304, 2014.
17. Shaker, N., J. Togelius and G. N. Yannakakis, "The experience-driven perspective," in Togelius et al., (Eds.), *Procedural Content Generation in Games. A textbook and an overview of current research*, Springer 2015.
18. Shaker, N., G. Smith and G. N. Yannakakis, "Evaluating Content Generators," in Togelius et al., (Eds.), *Procedural Content Generation in Games. A textbook and an overview of current research*, Springer 2015.
19. J. Togelius and G. N. Yannakakis, "Emotion-driven Level Design," in Karpouzis and Yannakakis, (Eds.) *Emotion in Games: Theory and Praxis*, Springer, 2016.
20. Togelius, J., and G. N. Yannakakis, "Assessing Believability," in P. Hingston (Ed.) *Believable Bots*, 2013. Springer-Verlag.
21. Yannakakis G. N. and A. Paiva, "Emotion in Games," in R. A. Calvo, S. K. D'Mello, J. Gratch and A. Kappas (Eds). *Oxford Handbook of Affective Computing*. Oxford University Press. 2014.
22. Yannakakis, G. N., P. Spronck, D. Loiacono and E. Andre, "Player Modeling," in Togelius et al., (Eds.) *Dagstuhl Seminar on Artificial and Computational Intelligence in Games*, 2013. Springer-Verlag.
23. Yannakakis, G. N., H. P. Martinez and M. Garbarino "Psychophysiology in Games," in Karpouzis and Yannakakis, (Eds.) *Emotion in Games: Theory and Practice*, Springer.

24. Yannakakis, G. N. and J. Togelius, "Emotion-driven level Design," in Karpouzis and Yannakakis, (Eds.) *Emotion in Games: Theory and Practice*, Springer, (to appear in fall 2015).

## Journal Papers (29)

1. Barr, P. Critical Jostling: Jostle Bastard and Jostle Parent as Critical Reflective Practice. *GAME: The Italian Journal of Game Studies*. No.5. (under review)
2. Burelli P., and G. N. Yannakakis, "Adapting Virtual Camera Behaviour through Player Modelling," *User Modeling and User-Adapted Interaction*, Springer-Verlag, 2015. ISI Impact Factor: 1.9.
3. Eladhari M. P., The Mind Module - Using an Affect and Personality Computational Model as a Game-play Element, *IEEE Transactions on Affective Computing*, 2014
4. Calleja, G. "Will Love Tear Us Apart: Adapting the Lyrical to the Ludic", *Countertext*, Vol 2 Issue 2, *Edinburgh University Press*. Scotland.
5. Calleja, G., "Games, Literature and the Imagination", *Electronic Book Review*, Open Humanities Press, USA. (Forthcoming).
6. Gomez Maureira, M.; Westerlaken, M.; Janssen, D.; Gualeni, S.; Calvi, L. 2014. Improving Level Design Through Game User Research: A Comparison of Methodologies. in *Entertainment Computing* (Elsevier). 2014. Vol. 5, n. 4, 463-473. DOI:10.1016/j.entcom.2014.08.008
7. Gooch, D., Benton,L., Khaled,R., Lukes,D., and Vasalou, A. Creating Bridges: The Role of Exploratory Design Research in an Intelligent Tutoring System Project. *Interacting with Computers*, 2015.
8. Gualeni, Stefano. 2016. 'Self-reflexive videogames: observations and corollaries on virtual worlds as philosophical artifacts'. In *G|M|E – The Italian Journal of Game Studies*, Vol. 1, n. 4, October 2016. ISSN: 2280-7705
9. Gualeni, S.; Vella, D.; Harrington, J. 2017. "De-Roling from Experiences and Identities in Virtual Worlds". *Journal of Virtual World Research*, Vol. 10, n. 2. ISSN: 1941-8477
10. Gualeni, S. 2016. "The Experience Machine: Existential Reflections of Virtual Worlds". *Journal of Virtual World Research*, Vol. 9, n. 3. ISSN: 1941-8477
11. Grappiolo, C. H. P. Martinez, and G. N. Yannakakis, "Validating Generic Metrics of Fairness in Game-based Resource Allocation Scenarios with Crowdsourced Annotations," *Transactions on Computational Collective Intelligence*, pp. 176-200, 2014. Springer Berlin Heidelberg.
12. Holmgaard, C., G. N. Yannakakis, H. P. Martinez, K. I. Karstoft, H. S. Andersen, "Multimodal PTSD characterization via the StartleMart game," *Journal on Multimodal User Interfaces*, pp. 1-13, June, 2014. ISI Impact Factor: 0.462

13. Holmgard, C., A. Liapis, J. Togelius, G. N. Yannakakis, "Evolving Models of Player Decision Making: Personas versus Clones," *Entertainment Computing*, Elsevier, 2015.
14. Khaled, R. and Vasalou, A. Bridging Serious Games and Participatory Design. *The International Journal of Child-Computer Interaction*, 2014.
15. Liapis A., Georgios N. Yannakakis, Constantine Alexopoulos and Phil Lopes: "Can Computers Foster Human Users' Creativity? Theory and Praxis of Mixed-Initiative Co-Creativity," *Digital Culture & Education (DCE)*, 8 (2). 2016
16. Liapis, A., G. N. Yannakakis and J. Togelius, "Constrained Novelty Search: A Study on Game Content Generation," *Evolutionary Computation*, 2014. MIT Press. --- ISI Impact Factor: 3.733.
17. Phil Lopes, Antonios Liapis and Georgios N. Yannakakis: "Modelling Affect for Horror Soundscapes," *IEEE Transactions of Affective Computing*, 2017.
18. Martinez, H. P., G. N. Yannakakis and J. Hallam, "Don't Classify Ratings of Affect; Rank them!," *IEEE Transactions on Affective Computing*, Aug, 2014. ISI Impact Factor: 3.466
19. Martinez, H. P., N. Böttcher, Procedural Audio in Computer Games Using Motion Controllers: An Evaluation on the Effect and Perception, *Serafin International Journal of Computer Games Technology*. 2013.
20. Martinez, H. P., Y. Bengio, and G. N. Yannakakis, "Learning Deep Physiological Models of Affect," *IEEE Computational Intelligence Magazine, Special Issue on Computational Intelligence and Affective Computing*, pp. 20-33, May, 2013 — ISI Impact Factor: 3.368
21. Ortega, J., N. Shaker, J. Togelius and G. N. Yannakakis, "Imitating human playing styles in Super Mario Bros," *Entertainment Computing*, Elsevier, vol. 4, pp. 93–104, 2013.
22. Shaker, N., J. Togelius, and G. N. Yannakakis, "Crowd-Sourcing the Aesthetics of Platform Games," *IEEE Transactions on Computational Intelligence and AI in Games*, vol. 5, no.3, September 2013. — ISI Impact Factor: 1.694
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24. Togelius, J., M. Preuss, N. Baume, S. Wessing, J. Hagelback, G. N. Yannakakis and C. Grappiolo, "Controllable Procedural Map Generation via Multiobjective Evolution," *Genetic Programming and Evolvable Machines*, Volume 14, Issue 2, pp. 245–277, Springer, June 2013. — ISI Impact Factor: 1.333

25. Togelius, J., N. Shaker, S. Karakovsky, and G. N. Yannakakis, "The Mario AI Championship 2009–2012," *AI Magazine*, 2013. — ISI Impact Factor: 0.81
26. Vella, D. "The Ludic Muse: The Form of Games as Art," *Countertext* 2(1) 2016. pp. 66-84
27. Vella, D., "Modeling the Semiotic Structure of Game Characters," *ToDiGRA* 2(2). 2016.
28. Vella, D., No Mastery Without Mystery: *Dark Souls* and the Ludic Sublime," *Game Studies* (15, 1) (published July 2015)
29. Yannakakis G. N. and J. Togelius, "A Panorama of Artificial and Computational Intelligence in Games," *IEEE Transactions on Computational Intelligence and AI in Games*, 2014. ISI Impact Factor: 1.694

## Conference/Workshop Papers (110)

1. Abela, R., A. Liapis, G. N. Yannakakis: "A Constructive Approach for the Generation of Underwater Environments," in Proceedings of the FDG workshop on Procedural Content Generation in Games, 2015.
2. Barros, G., A. Liapis, J. Togelius: "Data Adventures," in Proceedings of the FDG workshop on Procedural Content Generation in Games, 2015.
3. Benton, L., Vasalou, A., Khaled, R., Johnson, H., and Gooch, D. Diversity for design: a framework for involving neurodiverse children in the technology design process. In *Proceedings of the 32nd annual ACM conference on Human factors in computing systems (CHI '14)*. ACM, New York, NY, USA, 3747-3756.
4. Benton, L., Vasalou, A., Gooch, D., and Khaled, R. Understanding and fostering children's storytelling during game narrative design. In *Proceedings of the 2014 conference on Interaction design and children (IDC '14)*. ACM, New York, NY, USA, 301-304.
5. Burelli P. and G. N Yannakakis, "A Benchmark for Virtual Camera Control," in *Proceedings of Applications of Evolutionary Computation*, 2015.

6. E. Camilleri, G. N. Yannakakis, and A. Dingli, "Platformer Level Design for Player Believability," in Proceedings of the IEEE Computational Intelligence and Games Conference, 2016.
7. Cachia, W., A. Liapis, G. N. Yannakakis: "Multi-Level Evolution of Shooter Levels," in Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference, 2015.
8. Cachia, W., L. Aquilina, H. P. Martinez and G. N. Yannakakis, "Procedural Generation of Music-Guided Weapons," in *Proceedings of the IEEE Conference on Computational Intelligence and Games*, 2014. IEEE.
9. Calleja, G. and E. Aarseth, "The Word Game: The Ontology of an Undefinable Object", *Foundations of Digital Games* 2015, California, USA.
10. Calleja G. "Experiential Narrative", *Foundations of Digital Games* 2013, Crete, Greece. [**Nominated for Best Paper Award**]
11. Camilleri, E, Yannakakis, Georgios N., and Liapis, Antonios. 2017. "Towards General Models of Player Affect," In Proceedings of the International Conference on Affective Computing and Intelligent Interaction, 2017.
12. Cheong, Y. C., C. Grappiolo, C. Holmgaard, F. Berger, R. Khaled, G. N. Yannakakis, "Towards Validating Game Scenarios for Teaching Conflict Resolution", in *Proceedings of the Games for Learning workshop, International Conference on the Foundations of Digital Games*, May 2013.
13. Cuschieri, T., R. Khaled, V. E. Farrugia, H. P. Martinez, G. N. Yannakakis, "The iLearnRW Game: Support for Students with Dyslexia in Class and at Home", in *Proceedings of the International Conference on Virtual Worlds and Games for Serious Applications (VS-Games)*, 2014
14. Eladhari, M. P., P. Lopes, and G. N. Yannakakis. "Interweaving Story Coherence and Player Creativity through Story-Making Games." *Interactive Storytelling*. Springer International Publishing, 2014. 73-80.

15. Fowler A, A. Arya, M. P. Eladhari, and S. Gold, DiGRA 13 Global Game Jam Workshop, *Proceedings of Digital Games Research Association (DiGRA) Conference 2013*
16. Fowler A, M. P. Eladhari, F. Khosmood, A. Arya, The Inaugural Workshop on the Global Game Jam, *Proceedings of International Conference on the Foundations of Digital Games, 2013*
17. Grappiolo, C., J. Togelius, G N. Yannakakis, “Artificial Evolution for the Detection of Group Identities in Complex Artificial Societies”, in *Proceedings of the 2013 IEEE Symposium Series on Computational Intelligence — Artificial Life*, pp. 126-133, April 2013.
18. Grappiolo, C., J. Togelius, G. N. Yannakakis, “Interaction-based Group Identity Detection via Reinforcement Learning and Artificial Evolution,” in *Proceedings of the Evolutionary Computation and Multi-agent Systems and Simulation workshop, Genetic and Evolutionary Computation Conference*, July 2013.
19. Grappiolo, C., J. Togelius, G. N. Yannakakis, “Shifting Niches for Community Structure Detection,” in *Proceedings of the IEEE Congress on Evolutionary Computation*, June 2013.
20. Grappiolo, C., J. Togelius, G. N. Yannakakis, “Using Reinforcement Learning and Artificial Evolution for the Detection of Group Identities in Complex Adaptive Artificial Societies,” in *Proceedings of the Genetic and Evolutionary Computation Conference --- GECCO*, July 2013.
21. D. Gravina, A. Liapis, and G. N. Yannakakis, “Constrained Surprise Search for Content Generation,” in *Proceedings of the IEEE Computational Intelligence and Games Conference*, 2016.
22. D. Gravina, A. Liapis, G. N. Yannakakis, “Surprise Search: Beyond Objectives and Novelty,” in *Proceedings of the Genetic and Evolutionary Computation Conference GECCO*, July 2016.

23. Gravina, D., Antonios Liapis and Georgios N. Yannakakis: "Coupling Novelty and Surprise for Evolutionary Divergence," In Proceedings of the Genetic and Evolutionary Computation Conference, 2017.
24. Gooch, D., Benton, L., Khaled, R., Vasalou, A. Using Gamification to Motivate Students with Dyslexia or other Special Educational Needs. Submitted to CHI 2015.
25. Gualeni, S. 2015. 'Self-fashioning through Game Design'. Paper presented at the 2015 *Philosophy of Computer Games conference*, Germany, October 14-17, 2015
26. Gualeni, S. 2015. 'ENLARGE YOUR MESOSCOPY: A philosophical reflection on projectual ontologies and the human scale'. Paper presented at the 2015 euSLSA conference in Furjana, Malta, June 15-18, 2015
27. Gualeni, S., 'DOING Philosophy with Computer Games' (panel), *Philosophy of Computer Games conference*
28. Gualeni S., 'GAME AND VIDEOGAME ONTOLOGIES: A ROUND TABLE' (panel), 2015 DiGRA conference (Leuphana University, Lüneburg, Germany)
29. Gualeni S., "Freer Than We Think: Game Design as a Liberation Practice". Paper presented at the *2014 Philosophy of Computer Games conference*, Bilgi University of Istanbul, Turkey, November 13-16, 2014.
30. Harko Verhagen H., M.P. Eladhari, M. Johansson M, and J. McCoy, Introduction: Social Believability in Games, *Advances in Computer Entertainment*, Lecture Notes in Computer Science Volume 8253, 2013, pp 649-652.
31. Herrewijn, L., K. Poels, and G. Calleja, "The relationship between player involvement and immersion: An experimental investigation." In Proceedings of the *Foundations of Digital Games* conference 2013, Crete, Greece.
32. Holmgaard, C., G. N. Yannakakis, H. P. Martinez and K. I Karstoft, "To Rank or to Classify? Annotating Stress for Reliable PTSD Profiling", in *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII 2013)*, 2015.

33. Holmgard, C., A. Liapis, J. Togelius, G. N. Yannakakis: "Personas versus Clones for Player Decision Modeling," in *Proceedings of the International Conference on Entertainment Computing (ICEC)*, 2014.
34. Holmgard, C., A. Liapis, J. Togelius, G. N. Yannakakis: "Monte-Carlo Tree Search for Persona Based Player Modeling," in *Proceedings of the AIIDE workshop on Player Modeling*, 2015.
35. Holmgard, C. A. Liapis, J. Togelius, and G. N. Yannakakis, "Evolving Personas for Player Decision Modeling," in *Proceedings of the IEEE Conference on Computational Intelligence and Games*, 2014. IEEE.
36. Holmgard, C. A. Liapis, J. Togelius, and G. N. Yannakakis, "Personas versus Clones for Player Decision Modeling," in *Proceedings of the International Conference on Entertainment Computing*, 2014.
37. Holmgard, C. J. Togelius and G. N. Yannakakis, "Decision Making Styles as Deviation from Rational Action. A Super Mario Case Study," in *Proceedings of the Ninth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-13)*, Boston, Massachusetts, 2013.
38. Holmgard, C., A. Liapis, J. Togelius, and G. N. Yannakakis, "Generative Agents for Player Decision Modeling in Games," in *Proceedings of the ACM Conference on Foundations of Digital Games*, 2014.
39. Holmgard, C., G. N. Yannakakis, K. I Karstoft, and H. S. Andersen, "Stress Detection for PTSD via the StartleMart Game", in *Proceedings of the Fifth International Conference of the Humaine Association on Affective Computing and Intelligent Interaction (ACII 2013)*, 2013.
40. Holmgard, C., G. N. Yannakakis, R. Khaled, "The Games for Health Prototype", in *Proceedings of the 8th International Conference on Foundations of Digital Games*, pp. 396–399, 2013.
41. Hoover, A. K., W. Cachia, A. Liapis, and G. N. Yannakakis, "AudioInSpace: A Proof-of-Concept Exploring the Creative Fusion of Generative Audio, Visuals and

Gameplay,” in *Proceedings of the 4th International Conference on Evolutionary and Biologically Inspired Music, Sound, Art and Design*, 2015.

42. Hoover, A., W. Cachia, A. Liapis, G. N. Yannakakis: “AudioInSpace: Exploring the Creative Fusion of Generative Audio, Visuals and Gameplay,” in *Evolutionary and Biologically Inspired Music, Sound, Art and Design (EvoMusArt)*, vol. 9027, LNCS. Springer, 2015.
43. Johansson M, M. P. Eladhari, J. McCoy, and H. Verhagen, Social Believability in Games, *Proceedings of Digital Games Research Association (DiGRA) Conference 2013*
44. D. Karavolos, A. Liapis, and G. N. Yannakakis, “Evolving Missions to Create Game Spaces,” in *Proceedings of the IEEE Computational Intelligence and Games Conference*, 2016.
45. Daniel Karavolos, Antonios Liapis and Georgios N. Yannakakis: “Mission Evolution for Dungeon Levels”, in *Proceedings of the IEEE Conference on Computational Intelligence and Games (CIG)*. 2016
46. Jones, Catherine Emma, Antonios Liapis, Ioanna Lykourantzou, and Daniele Guido: "Board Game Prototyping to Co-Design a Better Location-Based Digital Game," In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*, 2017.
47. Daniel Karavolos, Antonios Liapis and Georgios N. Yannakakis: "Learning the Patterns of Balance in a Multi-Player Shooter Game," In *Proceedings of the FDG workshop on Procedural Content Generation in Games*, 2017.
48. Karpouzis, K., G. N. Yannakakis, N. Shaker, and S. Asteriadis, “The Platformer Experience Dataset”, in *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII 2013)*, 2015.
49. Karpouzis, K., G. N. Yannakakis, A. Paiva, J. H. Nielsen, A. Vasalou, and A. Jhala “User modelling and adaptive, natural interaction for conflict resolution” in *Proceedings of the Affective Computing and Intelligent Interaction (ACII) conference*, pp. 719-721, 2013. IEEE.
50. Khaled, R., and G. N. Yannakakis, “Village Voices: An adaptive game for conflict resolution,” in *Proceedings of the 8th International Conference on Foundations of Digital Games*, pp. 425–426, 2013.

51. Khaled, R., Nelson, M., and Barr, P. Design metaphors for procedural content generation in games. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13)*. ACM, New York, NY, USA, 1509-1518. 2013.
52. Knight, Y. H. P. Martinez, and G. N. Yannakakis, "Space Maze: Experience-driven game camera control," in *Proceedings of the 8th International Conference on Foundations of Digital Games*, pp. 427–428, 2013.
53. Liapis, A., G N. Yannakakis: "Refining the Paradigm of Sketching in AI-Based Level Design," in *Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference*, 2015.
54. Liapis, A., A. K. Hoover, G. N. Yannakakis, C. Alexopoulos, E. V. Dimaraki: "Motivating Visual Interpretations in Iconoscope: Designing a Game for Fostering Creativity," in *Proceedings of the 10th Conference on the Foundations of Digital Games*, 2015.
55. Liapis, A. "Map Sketch Generation as a Service," in *Proceedings of the AIIDE workshop on Experimental AI in Games*, 2015.
56. Liapis, A, C. Holmgard, G. N. Yannakakis, and J. Togelius, "Procedural Personas as Critics for Dungeon Generation," in *Proceedings of Applications of Evolutionary Computation*, 2015. **(Best Paper Award)**
57. Liapis, A., G. N. Yannakakis, and J. Togelius, "Designer Modeling for Sentient Sketchbook," in *Proceedings of the IEEE Conference on Computational Intelligence and Games*, 2014. IEEE. **(Best Paper Award)**
58. Liapis, A., G. N. Yannakakis, J. Togelius , "Computational Game Creativity," in *Proceedings of the Fourth International Conference on Computational Creativity*, 2014.
59. Liapis, A., G. N. Yannakakis, J. Togelius: "Designer Modeling for Personalized Game Content Creation Tools," in *Proceedings of the AIIDE Workshop on Artificial Intelligence & Game Aesthetics*, 2013.

60. Liapis, A., G. N. Yannakakis, J. Togelius: "Sentient World: Human-Based Procedural Cartography," in *Proceedings of Evolutionary and Biologically Inspired Music, Sound, Art and Design (EvoMusArt)*, vol. 7834, LNCS. Springer, 2013, pp. 180-191.
61. Liapis, A., G. N. Yannakakis, J. Togelius: "Towards a Generic Method of Evaluating Game Levels," in *Proceedings of the Ninth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-13)*, Boston, Massachusetts, 2013. (**Best Student Paper Award**)
62. Liapis, A., G. N. Yannakakis, J. Togelius: "Enhancements to Constrained Novelty Search: Two-Population Novelty Search for Generating Game Content," in *Proceedings of Genetic and Evolutionary Competition Conference*, 2013. (**Best paper award**)
63. Liapis, A., G. N. Yannakakis, J. Togelius: "Generating Map Sketches for Strategy Games," in *Proceedings of Applications of Evolutionary Computation*, vol. 7835, LNCS. Springer, 2013, pp. 264–273.
64. Liapis, A., G. N. Yannakakis, J. Togelius: "Sentient Sketchbook: Computer-Aided Game Level Authoring," in *Proceedings of ACM Conference on Foundations of Digital Games*, pp. 213–220, 2013.
65. Liapis, A., H. P. Martinez, J. Togelius, G. N. Yannakakis: "Adaptive Game Level Creation through Rank-based Interactive Evolution," in *Proceedings of the IEEE Conference on Computational Intelligence and Games (CIG)*, 2013. (**Best Paper Award Nominee**)
66. Liapis, A., H. P. Martinez, Julian Togelius, G. N. Yannakakis: "Transforming Exploratory Creativity with DeLeNoX," in *Proceedings of the Fourth International Conference on Computational Creativity*, pp. 71-78, 2013.
67. Liapis, A.: "Multi-segment Evolution of Dungeon Game Levels," In *Proceedings of the Genetic and Evolutionary Computation Conference*, 2017.
68. Liapis, A.: "Mixed-initiative Creative Drawing with webIconoscope," In *Proceedings of the 6th International Conference on Computational Intelligence in Music, Sound, Art and Design (EvoMusArt)*, vol. 10198, LNCS. Springer, 2017.

69. Lopes, Phil, Antonios Liapis, and Georgios N. Yannakakis. "Sonancia: A Multi-Faceted Generator for Horror." — Demo Paper. *Proceedings of the IEEE Computational Intelligence in Games Conference*. 2016.
70. Lopes, P., A. Liapis, G. N Yannakakis: "Sonancia: Sonification of Procedurally Generated Game Levels," in *Proceedings of the ICCG workshop on Computational Creativity & Games*, 2015.
71. Lopes, P., A. Liapis, G. N Yannakakis: "Targeting Horror via Level and Soundscape Generation," in *Proceedings of the AAAI Artificial Intelligence for Interactive Digital Entertainment Conference*, 2015.
72. Lopes, P., and G. N. Yannakakis. "Investigating Collaborative Creativity via Machine-Mediated Game Blending." *Tenth Artificial Intelligence and Interactive Digital Entertainment Conference*. 2014.
73. Lopes, P., A. Liapis, and G. N. Yannakakis, "The C2Create Authoring Tool: Fostering Creativity via Game Asset Creation," in *Proceedings of the IEEE Conference on Computational Intelligence and Games*, 2014. IEEE.
74. P. Lopes, A. Liapis and G. N. Yannakakis, "Framing Tension for Game Generation," in *Proceedings of the Seventh International Conference on Computational Creativity*, 2016.
75. Lopes, P., A. Hoover, and G. N. Yannakakis, "Toward Procedural Music in Digital Games". *Ludomusicology Conference*, 2015.
76. Phil Lopes, Georgios N. Yannakakis and Antonios Liapis. 2017. "RankTrace: Relative and Unbounded Affect Annotation," In *Proceedings of the International Conference on Affective Computing and Intelligent Interaction*, 2017.
77. Martinez, H. P. and G. N. Yannakakis "Deep Multimodal Fusion: Combining Discrete Events and Continuous Signals," in *Proceedings of the International Conference in Multimodal Interaction (ICMI)*, 2014 (**Outstanding Paper Award Nominee**)
78. C. Oliva (2017). "On the Ontological Status of Musical Actions in Computer Games" *Philosophy of Computer Games 2017*, Jagiellonian University, Krakow, Poland.

79. C. Oliva (2016). "Toshio Iwai: digital games as musical realizations." *Ludomusicology Conference 2016*, University of Southampton.
80. Oliva, C. (2015): "Reassessing Otococky: a forgotten classic in digital games history". *Replaying Japan 2015: 3rd International Japan Game Studies Conference*, Kyoto.
81. Oliva, C. (2015): "Soundscape Analysis of Digital Games". *Workshop on Audio for Games and Interactivity*. Gamification Lab, Leuphana University, Luneburg.
82. Oliva, C. (2014): "Comedic affordances in digital game soundscapes". *Society for Cinema & Media Studies 54rd Annual Conference*, Seattle, WA.
83. Oliva, C. (2013): "Soundmarks in Digital Games Soundscapes". *Society for Cinema & Media Studies 53rd Annual Conference*, Chicago, IL.
84. Prook, J.; Janssen, D.; Gualeni, S. 2015. 'The Negative Effects of Praise and Flattery in Casual Videogames'. Full paper presented at the *2015 Foundations of Digital Games conference (ACM)* in Asilomar, California, United States, June 22-25, 2015
85. O. Sacco, A. Liapis, and G. N. Yannakakis, "A Holistic Approach for Semantic-Based Game Generation," in *Proceedings of the IEEE Computational Intelligence and Games Conference*, 2016.
86. Owen Sacco, Antonios Liapis, and Georgios N. Yannakakis. 2017. "Game Character Ontology (GCO): A Vocabulary for Extracting and Describing Game Character Information from Web Content," In *Proceedings of the International Conference on Semantic Systems*, 2017.
87. Shaker, N., J. Togelius, G. N. Yannakakis, L. Poovanna, V. S. Ethiraj, S. J. Johansson, R. G. Reynolds, L. K. Heether, T. Schumann, M. Gallagher. "The Turing Test Track of the 2012 Mario AI Championship: Entries and Evaluation," in *Proceedings of the 2013 IEEE Conference on Computational Intelligence and Games (CIG 2013)*, 2013.

88. Švelch, Jaroslav, and Vella, Daniel (chairs). "Monstrosity and Games." Workshop at the Central and Eastern European Game Studies Conference 2017, Trnava, Slovakia, September 28-30, 2017.
89. J. Togelius and G. N. Yannakakis, "General Game AI," in Proceedings of the IEEE Computational Intelligence and Games Conference, 2016
90. Togelius, J., N. Shaker, and G. N. Yannakakis, "Active Player Modelling," arXiv preprint arXiv:1312.2936, 2013.
91. Vasalou, A. and Khaled, R. Designing from the Sidelines: Design in a Technology-Centered Serious Game Project. In the *Proceedings of the CHI Workshop Let's talk about Failures: Why was the Game for Children not a Success?* 2013.
92. Vasalou, A., Khaled, R., Gooch, D., and Benton, L. Problematizing Cultural Appropriation. Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play, CHI PLAY 2014, New York, NY, USA, 267-276.
93. Vella, D. "Who am 'I' in the Game?: A Typology of Modes of Ludic Subjectivity." Paper presented at the *1st Joint DiGRA and FDG International Conference*, Dundee, Scotland, 1-6 August 2016.
94. Vella, D., "The Character of the Ludic Muse," presented at the *Philosophy of Computer Games Conference 2015*, BTK University of Art and Design, Berlin, October 2015.
95. Vella, D., Participation in "Game Hermeneutics," panel presented as part of the *Philosophy of Computer Games Conference 2015*.
96. Vella, Daniel (2017). "Re-opening Doors, Re-framing Perceptions: Fiction, Worldness and Play." Paper presented at the *5th International Conference in Games and Literary Theory*, Université de Montréal, Montréal, Canada, October 20-22, 2017.
97. Westerlaken, Michelle; Gualeni, Stefano. 2016. 'Becoming with: Towards the inclusion of animals as participants in design processes'. *Proceedings of ACI '16* November 16-17, 2016, Milton Keynes, United Kingdom, ACM Press.
98. Westerlaken, Michelle; Gualeni, Stefano. 2016. 'Situated Knowledges through Game Design: A Transformative Exercise with Ants. *Proceedings of the Philosophy of Computer Games Conference*. Valletta, Malta, November 1-4, 2016.
99. Westerlaken, M.; Gualeni, S. 2014. 'Grounded Zoomorphism: an evaluation methodology for ACI design'. Paper presented at the *ACE '14 Workshops* in Funchal, Portugal, November 11 – 14, 2014.

100. Westerlaken, M.; Gualeni, S. 2014. "Felino: The Philosophical Practice of Making an Interspecies Video Game" at the 2014 *Philosophy of Computer Games conference*, Bilgi University of Istanbul, Turkey, November 13-16, 2014
101. G. N. Yannakakis, R. Cowie, and C. Busso, "The Ordinal Nature of Emotions," in *Proceedings of the Seventh International Conference on Affective Computing and Intelligent Interaction (ACII)*, 2017. (**Best Paper Award**)
102. Yannakakis, G. N. and Khaled, R. Village Voices: A Personalised and Adaptive Game for Conflict Resolution. In *Proceedings of FDG 2013*, 2013.
103. G. N. Yannakakis and A. Liapis, "Searching for Surprise," in *Proceedings of the Seventh International Conference on Computational Creativity*, 2016.
104. Yannakakis, G. N., A. Liapis, C. Alexopoulos, "Mixed-Initiative Co-Creativity," in *Proceedings of the 9th International Conference on Foundations of Digital Games*, 2014.
105. Yannakakis, G. N. and J. Togelius, "Experience-driven Procedural Content generation (Extended Abstract)", in *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII 2013)*, 2015. (**Invited paper**)
106. Yannakakis, G. N., and H. P. Martinez, "Grounding Truth via Ordinal Annotation", in *Proceedings of the Sixth International Conference on Affective Computing and Intelligent Interaction (ACII 2013)*, 2015. (**Invited paper**)
107. Zhang, J., R. Taarnby, A. Liapis, S. Risi: "DrawCompileEvolve: Sparking Interactive Evolutionary Art with Human Creations," in *Evolutionary and Biologically Inspired Music, Sound, Art and Design (EvoMusArt)*, vol. 9027, LNCS. Springer, 2015.
108. Westerlaken, M.; Gualeni, S. (2017). "A dialogue concerning 'doing philosophy' with and within computer games". *Proceedings of the Philosophy of Computer Games Conference*. Krakow, Poland, 2017.
109. Westerlaken, M.; Gualeni, S. (2016). "Becoming with: Towards the inclusion of animals as participants in design processes". *Proceedings of ACI '16* November 16-17,

2016, Milton Keynes, United Kingdom, ACM Press.

110. Westerlaken, M.; Gualeni, S. (2016). “Situated Knowledges through Game Design: A Transformative Exercise with Ants”. Proceedings of the Philosophy of Computer Games Conference. Valletta, Malta, November 1-4, 2016.

## Conference Presentations

Gordon Calleja

- “Lost in a Book, Found in a Game”, Games and Literary Theory Conference, University of Montreal, Montreal, Canada, 2017.
- “Posthuman: From Narrative Theory to Design”, CEEGS, Krakow, Poland, 2015
- “The Role of Imagination in Indie Games”, Electronic Literature Organisation, Annual Conference 2015, Bergen, Norway.
- “Beyond Attention: The Player Involvement Model”, GDC 2014, San Francisco, USA.
- “Independent Game Philosophers Panel”, Philosophy of Computer Games 2014, Studio-X, Istanbul, Turkey.
- “Attention/Involvement/Immersion - Understanding Player Experience in Digital Games”, Faculty of Social Sciences, Charles University, Prague, Czech Republic.

## Games Published

Pippin Barr

- *BREAKSOUT*, 2015, online
- *Best Chess*, 2015, online
- *REAL BAKU 2015* with Agence Babel, Fédération Internationale des Droits de l’Homme (FIDH), 2015, online
- *The Stolen Art Gallery*, 2015, online
- *Let’s Play: The Shining*, 2015, online
- *Jostle Parent*, 2015, online
- *Sound System II*, 2015, online
- *What We Did* with Rilla Khaled, 2015, online
- *Let’s Play: Let’s Play: Ancient Greek Punishment: Art Edition Edition*, 2015, online
- *Sound System I*, 2015, online
- *MANIFEST*, 2014, online
- *Abramovic Method Games* with Marina Abramovic, 2014, online
- *Get X Avoid Y*, 2014, online
- *The Junior Mint* with @seinfeld2000, 2014, online
- *Leaderboarder*, 2014, online
- *Don’t Drown*, 2014, online
- *Durations*, 2014, online
- *Lo-Fi Dick Fight*, 2014, online
- *Drosophilia* with Gordon Calleja, and Sidsel Hermansen, 2014, online

- Jostle Bastard, 2013, online
- *The Digital Marina Abramovic Institute (dMAI)* with the Marina Abramovic Institute, 2013, online
- *Snek.*, 2013, online
- The Mumble Indie Bungle, 2013, online
- *Art Game*, 2013, online

#### Gordon Calleja and Constantino Oliva

- “Will Love Tear Us Apart” – [www.willlovetearusapart.com](http://www.willlovetearusapart.com) (2013). Mighty Box Games. Presented at Ars Electronica 2013 and nominated for awards at SXSW Interactive and at the Festival du Nouveau Cinéma of Montreal. Featured on Rolling Stone US, Repubblica, Fact Mag. Funded by the Malta Arts Fund.

#### Gordon Calleja

- “Vengeance” – (2016) - <https://www.kickstarter.com/projects/mightyboards/vengeance-2>
- “Posthuman” – (2015) - <https://www.kickstarter.com/projects/532062403/posthuman>

#### Stefano Gualeni

- “Something Something Soup Something” – <http://soup.gua-le-ni.com/> (2017). Funded by Maltco research grant the game is a philosophical thought experiment on the subjectivity of words. The game has been featured in numerous publications including Kotaku, PC Canard, New York Times Food and Wine, Atlas Obscura, among many others.

## Appendix B: Invited Talks for 2013-2017

### Keynotes

- Barr, P. Got Curious? Keynote at Interface 2013, Carleton University, Ottawa, Canada. April 2013. <http://interface2013.wordpress.com/>
- Calleja G., “Games and the Reconceptualisation of Narrative”, *Digital Interfaces in Situations of Mobility: Cognitive, Artistic, Game Devices*, Sorbonne, Paris, France. 2014.
- Calleja, G., Invited Speaker: “The Making of Will Love Tear Us Apart”, Ars Electronica Festival 2013, Linz, Austria.
- Eladhari, M. P., AI and Game Prototyping, Guest talk at course Artificial Intelligence (EPGY2013), Stanford University, July 2013.
- Gualeni S. Codemotion Milan 2015 conference: ‘Transforming Oneself Through the Practice of Game Design’ – Nov 2015.
- Khaled, R. What We Talk About When We Talk About Procedural Content Generation. IEEE Conference on Computational Intelligence and Games, Dortmund, Germany, 2014.
- Khaled, R. Games and Learning. Annual Conference of the Association of MultiMediaDesign Teachers in Denmark, Middelfart, Denmark, 2013.
- Liapis A., Designing CAD tools for novices: can algorithms enhance productivity or foster creativity?” at the nucl.ai: Artificial Intelligence in Creative Industries conference (2015)
- Yannakakis, G. N. Keynote: 3rd Workshop on Emotion and Sentiment in Social and Expressive Media: User Engagement and Interaction, ACII, October 2017
- Yannakakis, G. N. Keynote: 6th EAI International Conference: ArtsIT, Interactivity & Game Creation, October, 2017
- Yannakakis G. N., International Summer School on Deep Learning (DeepLearn 2017), Bilbao, July 2017.
- Yannakakis, G. N. Keynote: Bootcamp on Heart Rate and Galvanic Skin Response as Measures for Assessing Human Experience, Aarhus University, May 2017.
- Yannakakis, G. N. Keynote: Prometheus Game Jam Athens, June, 2017.
- Yannakakis, G. N. Keynote: Global Game Jam Athens, January, 2017.
- Yannakakis, G. N. Keynote: International GameOn Conference, Amsterdam, December 2015.
- Yannakakis, G. N. Keynote: 15th Conference of Hellenic Psychological Society, Cyprus, May 2015.
- Yannakakis, G. N. Keynote: 9th International Workshop on Semantic and Social Media Adaptation and Personalization, Corfu, November 2014
- Yannakakis, G. N. Keynote: International Research-Centered Summer School in Cognitive Systems and Interactive Robotics, Data and Context Analysis, Athens, July 2014.
- Yannakakis, G. N. Keynote: Conferencia de Ciencias e Artes dos Videojogos, Portugal, November, 2014. (Invitation declined)
- Yannakakis, G. N. Keynote: Encontro Nacional de Estudantes de Informatica (ENEI) Conference, Aveiro, Portugal, April, 2014.
- Yannakakis, G. N. Keynote: First Annual Contact Forum of the PROSECCO network, Madrid (El Escorial), February, 2014
- Yannakakis, G. N. Keynote: The Tenth International Workshop on Agents and Data Mining Interaction, AAMAS 2014 (Invitation Declined)

- Yannakakis, G. N. Keynote: International Conference on Affective Computing and Intelligent Interaction (ACII 2013), Geneva, September, 2013.

## Other Invited Talks

- Barr P. *Less gameplay*, screenshake2015. Antwerp, Belgium. 2015.
- Barr P. *Minimal Game Design*. Global Game Jam Malta. University of Malta, Msida, Malta. 2015.
- Barr P. *On Making Digital "Art" "Games"*. Cologne Game Lab. Cologne University of Applied Sciences. Cologne, Germany. 2014.
- Barr P. *The Code is Present*. A MAZE / Johannesburg. Johannesburg, South Africa. 2014.
- Barr P. *Game. / Time*. Critical Hit. Concordia University, Montréal, Canada. 2014.
- Barr P. *Game Time*. Pecha Kucha Mdina. Mdina, Malta. 2014.
- Barr P. *The Game Designer is Present*. A MAZE / Berlin. Berlin, Germany. 2014.
- Barr, P. Got Curious? Talk at SKINS 4.0 Workshop on Aboriginal Storytelling in Digital Media, Concordia University, Montréal, Canada. May 2013. <http://skins.abtec.org/>
- Barr, P. Curious Games. Talk at A MAZE Indie Pop Up at Republika Festival, Rijeka, Croatia. July 2013. <http://www.amaze-festival.de/%5Btermalias-raw%5D/blog/a-maze-indie-pop-republika-fest-rijeka-croatia>
- Barr, P. What is curious games?. Talk at Playful 2013, London, England. October 2013. <http://thisisplayful.com/>
- Barr, P. Curious games, a fireside chat. Talk at MozFest 2013, London, England. October 2013. <http://mozillafestival.org/>
- Calleja, G., "Understanding Player Experience", BUG Lab, Bahçeşehir University, Istanbul, Turkey, 2014.
- Calleja, G. "Attention, Involvement, Immersion", DIGRA Flanders seminar, Antwerp, Belgium, 2013.
- Calleja, G. "The End: Aesthetic and Ludic Topoi in Digital Entertainment", The End: Terminus in Literature, Media and Culture, Aalborg University, Denmark.
- Eladhari, M. P., Co-creation, Invited talk at Instituto Superior Tecnico, Lisbon, Portugal, September 2013.
- Gualeni, S. Philosophy of Computer Games Conference. 'Video games and (as) scientific research' (panel). November 2016.
- Gualeni, S. 'Virtual Weltschmerz' (invited talk) Coimbra International Conference on the Virtual, University of Coimbra (Portugal). October 2016.
- Gualeni, S.: 'DOING Philosophy with (and in) Virtual Worlds' (invited talk) University of Porto (Portugal). October 2016.
- Gualeni, S. 'Giocare sul serio' (panel) FESTIVALETTERATURA, Mantova (Italy). September 2016.
- Gualeni, S. 'Una Macchina per Esperienze Straordinarie' (invited talk) FESTIVALETTERATURA, Mantova (Italy). September 2016.
- Gualeni, S., 'Game Design as a Self-Transformative Process' (invited talk) Laguna Beach (CA, U.S.A.). July 2016.
- Gualeni, S. 'Trasformazione' (interview) Gett1 Podcast series, Ep. 05. June 2016.
- Gualeni, S. 'University Matters' (radio interview) Campus FM. April 2016.

- Gualeni S. Guest-lecture at the BTK University of Art and Design of Berlin, Germany 'In-game metaphors: an autumnal reflection'. Oct-2015.
- Gualeni S. University of Turin, Italy 'ONTO-LOGICAL MACHINES'. Jun-2015
- Gualeni, S., 2017, November the 29th: Philosophy of Computer Games conference (Krakow, Poland). 'A dialogue concerning 'doing philosophy' with and within computer games' (paper presentation)
- Gualeni, S., 2017, November the 23rd: University of Gothenburg (Sweden) 'Experience Machines' (invited lecture) Gualeni, S., 2017, November the 23rd: University of Gothenburg (Sweden) 'Toying around with thought experiments' (invited lecture)
- Gualeni, S., 2017, October the 20th: Radio 2 Malta (PBS). 'Radio Mocha' (radio interview)
- Gualeni, S., 2017, September the 29th: Science and the City (Malta). 'Chicken and egg: philosophical play with thought experiments' (public talk)
- Gualeni, S., 2017, September the 18th: Game Studies Seminar 2017 (University of Malta). 'Toying around with thought experiments' (lecture)
- Gualeni, S., 2017, May the 3rd: IT-University Copenhagen (Denmark). 'Toying around with thought experiments' (guest lecture)
- Gualeni, S., 2017, March the 1st: Cafe' Scientifique (Malta). 'Chicken and egg: philosophical play with thought experiments' (public talk)
- Gualeni, S., 2017, February the 15th: University of Skövde (Sweden), MTEC research group. 'DOING philosophy with (and within) Virtual Worlds' (invited talk)
- Gualeni, S., 2017, February the 17th: IT-University Copenhagen (Denmark). 'DOING philosophy with (and within) Virtual Worlds' (invited talk)
- Gualeni, S., 2017, January the 30th: Radio 2 Malta (PBS). 'Radio Mocha' (radio interview)
- Gualeni, S., 2016, November the 30th: University of Malta (Malta), Faculty of Media and Knowledge Sciences. 'How Ideas Go to Market' (invited presentation and seminar)
- Gualeni, S., 2016, November the 16th: University of Malta (Malta), Game Lecture Series. 'Experience Machines' (invited talk)
- Khaled, R. Reality Bites, or 10 Things Serious Game Researchers Will Never Admit to Doing but Do Anyway. GDC Education Summit, 2015.
- Khaled, R. Reflektors. Screenshake Game Festival, Antwerp, Belgium, 2015.
- Khaled, R. Questions over Answers: Reflective Game Design. Critical Hit, Montreal, 2014.
- Khaled, R. Questions over Answers: Reflective Game Design. A MAZE Berlin, Germany, 2014.
- Khaled, R. Reflective Game Design. Pecha Kucha Night, Valletta, Malta, 2014.
- Khaled, R. Gamification Panel. Creativity Meeting Point 2013, Bilbao, Spain, 2013.
- Khaled, R. Digital Games in Malta Panel. 5th Workshop in Information and Communication Technology. SmartCity, Malta, 2013.
- Liapis, A. "Mixed-initiative Design, Designer Modeling and Game Development" at the Sapienza University of Rome (2015)
- Liapis, A. "AI-assisted Game Design" at the Dagstuhl Seminar 15051: Artificial and Computational Intelligence in Games: Integration (2015)
- Liapis, A. "Interactive Creativity of Man and Machine" (translated title) at the School of Fine Arts, University of Athens (2015)
- Liapis, A. "Absurdist Procedural Content Generation" at the Future of PCG symposium, IT University, Copenhagen (2014)
- Liapis, A., "Computational Game Creativity" at the Computer Science Annual Workshop Malta (2014)

- Oliva C., Invited to hold a Workshop on Audio for Games and Interactivity. “Soundscape Analysis of Digital Games”. Gamification Lab, Leuphana University, Lüneburg, 2015
- Yannakakis G. N., Dagstuhl seminar on Artificial and Computational Intelligence in Games. Invited Speaker, November 2017
- Yannakakis G. N., Foundation for Research and Technology Hellas, Greece, March 2017
- Yannakakis G. N., Technical University of Crete, Greece, March 2017
- Yannakakis G. N., Affective Computing Group, Media Lab, MIT, Boston, May 2016
- Yannakakis G. N., Northeastern University, Boston, May 2016
- Yannakakis G. N., Banff workshop on Computational Modelling in Games, Banff, Canada. Invited Speaker, May 2016.
- Yannakakis G. N., Imperial College London, December 2015.
- Yannakakis G. N., University of Concepcion, Concepcion, Chile, November 2015.
- Yannakakis G. N., Cyprus University of Technology, Limassol, Cyprus, 2015.
- Yannakakis G. N., Goldsmiths, University of London, UK, 2014.
- Yannakakis G. N., University College London, UK, 2014
- Yannakakis G. N., Dagstuhl seminar on Artificial and Computational Intelligence in Games. Invited Speaker, 2015.
- Yannakakis G. N., Sapienza University, Rome, Italy, 2014
- Yannakakis G. N., Summer School: Creativity and Games in Education, Crete, 2013.
- Yannakakis G. N., University of Technology, Sydney, School of Software, 2013.



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