
INSTITUT d'INFORMÀTICA
i APLICACIONS
'16
IIiA
RESEARCH
REPORT
iiia.udg.edu

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History and Objectives

History

The Institute of Informatics and Applications (IIiA) is a research institute of the University of Girona created in 1996. The IIiA is highly active in research, both basic and industry-driven,as well as in technology transfer. The IIiA currently has 68 members, 33 of whom with a PhD. Researchers conduct R&D in the fields of computer graphics, computer networks, e-learning, e-health, smart cities, smart grids and IT for food. The IIiA research staff belongs to three departments of the University of Girona:

- Department of Computer Architecture and Technology
- Department of Electrical Engineering, Electronics and Automation
- Department of Informatics, Applied Mathematics and Statistics

Objectives

The main purpose of the IIiA is to earn an international reputation as a research and technological centre in the field of ICT. To achieve this goal, the IIiA carries out high quality R&D projects and technology transfer contracts. These activities produce innovative results in all their phases (conception, design and implementation) both in scientific and engineering terms. Moreover, the IIiA is committed to the economic growth and social development of the area where it is located by promoting best use and exploitation of the ICT it produces.

The IIiA specific objectives are:

- To promote R&D, technology transfer and specialized training in the fields of Information Technologies and their applications.
- To foster and coordinate interdisciplinary projects using the different areas of expertise of its staff.
- To encourage R&D projects leading to innovation and technology transfer contracts.
- To increase the participation of the University of Girona in consortiums on research fields relevant to the IIiA's members.

Organisation and Management

Organisation

The IIiA is made up of four research groups:

- Broadband Communications and Distributed Systems (BCDS)
- Control Engineering and Intelligent Systems (eXiT)
- Graphics and Imaging Laboratory (GILab)
- Modelling, Identification and Control Engineering Laboratory (MICELab)

Management

Three bodies are involved in the decision making process of the IIiA: the Council, the Director and the Executive Board. The Council is the most important management body. It is composed of all the members of the Institute i.e. academic, technical and administrative staff. The Director is the head of the Institute. She/he is elected by means of an open electoral process. The Executive Board represents the Council and advises the Director on government issues. It is made up of the Director, the head of each research group, the Research Manager and the Academic Secretary. The Research Manager is in charge of the day to day management of the Institute. The Academic Secretary is in charge of the minutes of the Council and Executive Board meetings. She/he also certifies the agreements adopted by these two bodies. The composition of the Executive Board in 2016 was:

- Director: Dr Joan Colomer
- Head of BCDS: Prof Josep Lluís Marzo / Dr Ramon Fabregat
- Head of eXiT: Dr Joaquim Meléndez / Dr Joan Colomer
- Head of GILab: Prof Mateu Sbert
- Head of MICELab: Prof Josep Vehí
- Research Manager: Mr Xavier Manyer
- Academic Secretary: Dr Inès Ferrer

The Management/Research Assistants supports IIiA researchers in technology transfer and innovation projects:

- eXiT: Mr Roberto Petite / Ms Sara Murlà
- MICELab: Ms Anna Comas

The Administrative Staff provides the members of the IIiA with administrative support:

- Ms Cristina Rubirola
- Ms Montserrat Bragulat / Ms Begoña Fernández

IIiA 2016 in figures

Financing

The total income of the IIiA in 2016 was € 1,245,629. Much of the funding (98%) came from public sources whereas the rest (2%) came from private sources. As Figure 1 shows, 65% of the income corresponds to competitive grants for R&D projects, 19% to technology transfer contracts and grants, and 15% to competitive fellowships for hiring both predoctoral and postdoctoral fellows. 1% of the income came from a Salvador de Madariaga Mobility Grant, for the realization of a stay in a foreign center of a senior professor. The University of Girona's yearly budget allocation to the IIiA accounts for 1% of the institute's income, which means that the remaining 99% was competitive. Figure 2 shows the absolute values broken down into categories.

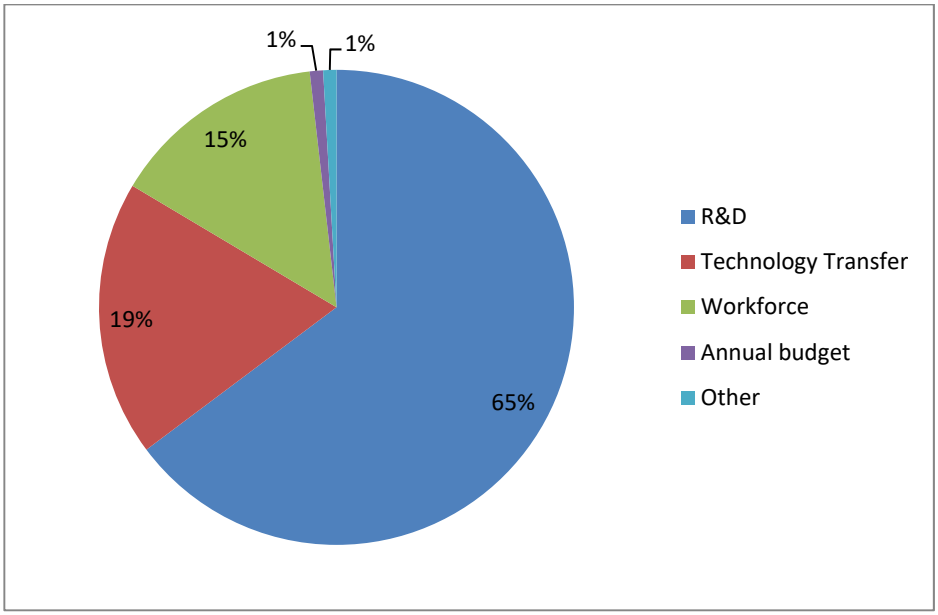

Figure 1 – IIiA 2016 income broken down into categories (percentages).

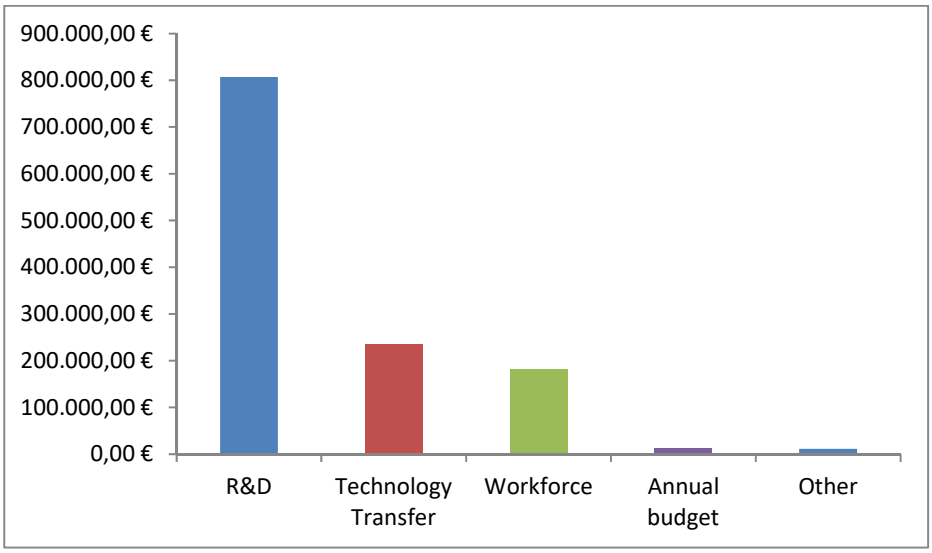

Figure 2 – IIiA 2016 income broken down into categories (absolute values).

With regards to the sources of funding, 18% was raised at European level, 38% at Spanish level and 20% at Catalan level. The University of Girona's competitive grants and budget allocation account for the remaining 24%. Figures 3 and 4 illustrate the income sources in percentage and in absolute values.

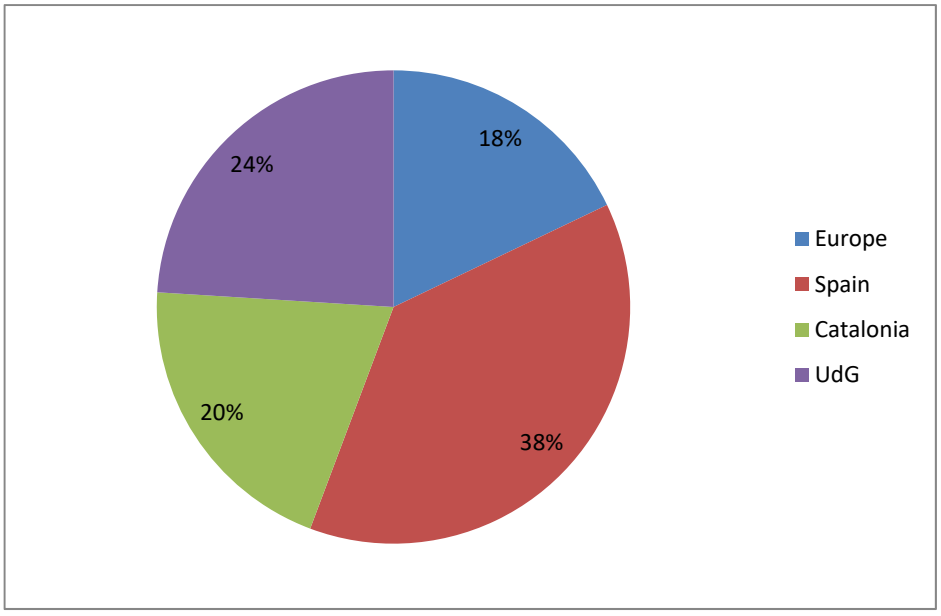

Figure 3 – IIiA 2016 income broken down into sources (percentages).

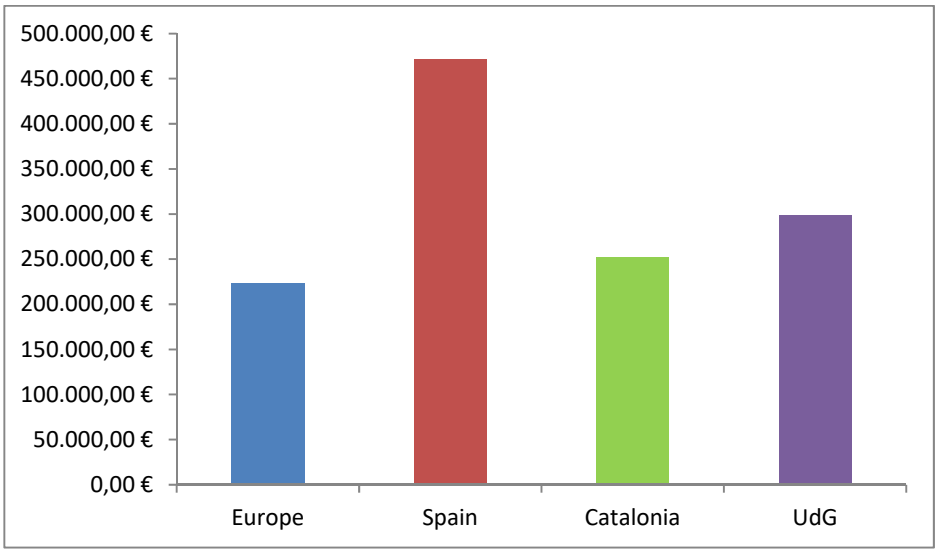

Figure 4 – IIiA 2016 income broken down into sources (absolute values).

Human Resources

The IIiA had 68 researchers in 2016 along with one research manager and two administrative staff. Table 1 shows the research workforce classified according to degree and gender.

	Male	Female	Total
PhD	29	4	33
Graduate and Master	23	12	35
Total	**52**	**16**	**68**

Table 1 – IIiA 2016 research workforce.

It is also worth mentioning that 18 researchers, PhD students, enjoyed competitive fellowships or employment grants. Table 2 shows them classified according to the kind of fellowship and gender.

	Male	Female	Total
FI Fellowships	1	0	1
FPI Fellowships	1	1	2
FPU Fellowships	1	0	1
UdG BR/IF Fellowships	3	3	6
Industrial doctorate	1	0	1
Other Fellowships	5	2	7
Total	**12**	**6**	**18**

Table 2 – Researchers enjoying employment grants or fellowships.

ISI Publications

IIiA researchers published 31 articles in 30 Thomson Reuters' ISI journals in 2016.

Research, Development and Technology Transfer

International and European projects

Reference	Acronym	Project	Start Date	End date	Funder	Grant	IIiA Coordinator
ART-010000-2013-002	ACCUS	Adaptive Cooperative Control in Urban Systems	01/06/2013	31/05/2016	ARTEMIS JU + MINETUR	€ 77,000	J. Meléndez
1423411		Spreading processes over multilayer and interconnected networks	15/07/2014	30/06/2017	NSF	$ 450,000	JL. Marzo *
2015-1-IT02-KA203-015210	HINGE	How to wIN the challenGE: internationalising EQF Level 5	01/09/2015	31/08/2018	EC Erasmus +	€ 25,238	E. Calle
680708	HIT2GAP	Highly Innovative Building Control Tools Tackling the Energy Performance Gap	01/09/2015	31/08/2019	EC H2020	€ 271,787	J. Meléndez **
689810	PEPPER	Patient Empowerment through Predictive PERsonalised decision support	01/02/2016	31/01/2019	H2020	€ 317,230	B. López
CA15127	RECODIS	Resilient communication services protecting end-user applications from disaster-based failures	01/03/2016	29/02/2019	COST	€ 400,000	JL. Marzo ***

* JL. Marzo is the researcher in charge at the IIiA. Caterina Scoglio, Kansas State University, is the global coordinator.

** J. Meléndez is the researcher in charge at the IIiA. NOBATEK is the global coordinator.

*** JL. Marzo is the researcher in charge at the IIiA. Prof. Jacek Rak, Gdansk University of Technology, is the global coordinator.

National research projects

Reference	Acronym	Project	Start date	End date	Funder	Grant (€)	Coordinator
TEC2012-32336	ROGER	Robustez ante fallos a gran escala en redes con encaminamiento interdominio	01/02/2013	31/01/2016	MINECO	34,515	E. Calle
TIN2013-47276-C6-1-R	IMSERIOUS	Avances en contenidos digitales para juegos serios	01/01/2014	31/12/2016	MINECO	162,976	M. Sbert
DPI2013-47450-C2-1-R	MESC	Plataforma para la monitorización y evaluación de la eficiencia de los sistemas de distribución en smart cities	01/01/2014	31/12/2016	MINECO	96,800	J. Colomer C. Pous
DPI2013-46982-C2-2-R	SAFE-AP	Nuevos métodos para la eficiencia y seguridad del páncreas artificial domiciliario en diabetes tipo 1	01/01/2014	31/12/2016	MINECO	200,860	J. Vehí
TIN2014-53082-R	Open Co-creation	Creación colaborativa de recursos y prácticas educativas abiertas para la diversidad	01/01/2015	31/12/2017	MINECO	52,756	R. Fabregat
TEC2015-66412R	GIROS	Redes interdependientes y con restricciones geográficas: indicadores de robustez	01/01/2016	31/12/2018	MINECO	105,875	E. Calle P. Vilà
TIN2016-75866-C3-3-R	CREATIVE	Tecnologias de juegos para la creacion de contenidos digitales, gestion, visualizacion y sonificacion	30/12/2016	29/12/2019	MINECO	137,819	M. Sbert I. Boada
TIN2016-79726-C2-2-R	CROWDSAVING	Arquitectura Adaptativa para Crowd-Sensing de Comunidades Eficientes	30/12/2016	29/12/2019	MINECO	37,631	J. Meléndez J. Colomer
DPI2016-78831-C2-2-R	mSAFE-AP	Solutions for the improvement of efficiency and safety of the artificial pancreas by fault-tolerant multivariable control architectures	30/12/2016	29/12/2019	MINECO	284,350	J. Vehí

National technology transfer projects

Reference	Acronym	Project	Start date	End date	Funder	Grant (€)	Coordinator
IDI-20141225	AGRONAUTA *	Automatización de las labores agronómicas en explotaciones agrícolas intensivas mediante robótica	01/01/2015	31/12/2018	CDTI	96,800	Serfruit

* UdG subcontracted by a company in the consortium.

Main technology transfer contracts

Contractor	Acronym	Purpose	Start date	End date	Amount (€)	Coordinator
DNV GL BUSINESS ASSURANCE ESPAÑA, SL	-	Trabajo experto técnico sobre los Sistemas avanzados para la gestión de procesos de plantas de RSU y distribución de agua	2015	2016	79,376	J. Colomer
IDASA	AGRONAUTA	Automation of agronomic tasks in farms by means of robotics	01/01/2015	31/12/2018	96,800	A. Bardera
Institut de Diagnòstic per la Imatge	Starviewer	New funcionalities for Starviewer 2016	02/01/2016	31/12/2016	100,000	I. Boada
SISLtech	-	Desenvolupament d'un programari que a partir de material gràfic de les EDARs, com poden ser vídeos o fotografies, permeti detectar i quantificar les escumes en afluent	03/12/2016	03/06/2017	5,600	I. Boada

UdG Scientific Productivity Grants

Program of grants for the improvement of the scientific productivity of the research groups of the University of Girona 2016-2018:

Reference	Start date	End date	Funder	Grant (€)	Coordinator
MPCUdG2016-007	2016	2018	UdG	15,000	I. Boada
MPCUdG2016-015	2016	2018	UdG	30,000	M. Sbert
MPCUdG2016-024	2016	2018	UdG	15,000	J. Poch
MPCUdG2016-025	2016	2018	UdG	67,500	JL. Marzo
MPCUdG2016-074	2016	2018	UdG	15,000	F. Castro
MPCUdG2016-075	2016	2018	UdG	45,000	J. Meléndez
MPCUdG2016-094	2016	2018	UdG	75,000	J. Vehí

Flagship projects

HIT2GAP: Highly Innovative Building Control Tools Tackling the Energy Performance Gap.

Reference: 680708
Start date: 01/09/2015 **End date:** 31/08/2019
Funding entity: European Commission (H2020, RIA) **Grant**: € 271,787.50
Coordinator: NOBATEK, France
Coordinator UdG: Joaquim Meléndez
Link: www.hit2gap.eu

Summary

Measurement campaigns have shown major discrepancies in buildings energy performance between planned energy demand and real energy consumption, while nowadays most of the newly constructed offices buildings are equipped with BMS systems, integrating a more or less extended measurement layer providing large amounts of data. Their integration in the building management sector offers an improvement capability of 22 % as some studies demonstrate.

The HIT2GAP project will develop a new generation of building monitoring and control tools based on advanced data treatment techniques allowing new approaches to assess building energy performance data, getting a better understanding of building's behaviour and hence a better performance. From a strong research layer on data, HIT2GAP will build on existing measurement and control tools that will be embedded into a new software platform for performance optimization. The solution will be:

- Fully modular: able to integrate several types and generations of data treatment modules (different algorithms) and data display solutions, following a plug and play approach
- Integrating data mining for knowledge discovery (DMKD) as a core technique for buildings' behaviour assessment and understanding

The HIT2GAP solution will be applied as a novel intelligent layer offering new capability of the existing BMS systems and offering the management stakeholders opportunities for services with a novel added value. Applying the solutions to groups of buildings will also allow to test energy demand vs. local production management modules. This will be tested in various pilot sites across Europe. HIT2GAP work will be realized with a permanent concern about market exploitation of the solutions developed within the project, with specific partnerships about business integration of the tools in the activity of key energy services partners of the consortium.

Spreading processes over multilayer and interconnected networks

Reference: 1423411
Start date: 15/07/2014 **End date**:30/06/2017
Funding entity: National Science Foundation **Grant**: $ 499,542
Coordinator: Caterina Scoglio, Kansas State University
Coordinator UdG: Josep Lluís Marzo
Link: http://www.nsf.gov/awardsearch/showAward?AWD_ID=1423411

Summary

This project advances the boundaries of network theory by analyzing spreading processes over multilayer and interconnected networks, which abound in nature and man-made infrastructures, and about which many interesting questions remain unanswered. Multilayer networks are an abstract representation where multiple types of links exist among nodes. Interconnected networks are an abstract representation where two or more simple networks, possibly with different and separate dynamics, are coupled to each other. The rationale for this project is that viral-spreading dynamics over multilayer and interconnected networks exhibit behaviors that cannot be attributed to single-network characteristics and play a highly relevant role in practice. This project uses rigorous mathematical tools from network science, spectral graph theory, nonlinear dynamics, stochastic processes, controls, game theory, and optimization.

mSAFE-AP: Solutions for the improvement of efficiency and safety of the artificial pancreas by fault-tolerant multivariable control architectures

Reference: DPI2016-78831-C2-2-R
Start date: 30/12/2016 **End date**: 29/12/2019
Funding entity: MINECO **Grant**: € 284,350
Coordinator: Josep Vehí Casellas
Link: www.closedloop4meal.org

Summary

As artificial pancreas systems move closer to commercialization, it is necessary to face the new challenges which involve intensive and prolonged use of a complex system, with multiple components with different operational lifetime, managed by humans with minimal training and tendency to non-adherence.

The constant challenges of efficiency and safety enter a new dimension when considering long periods of time, in which many actions must be carried by the patient without supervision. It is thus necessary to provide the artificial pancreas with new mechanisms for patient monitoring and detection/prediction of risks, acting accordingly on the system to ensure its safety.

In this context, techniques based on reconfigurable fault-tolerant control are considered as a good candidate to address these problems and will be explored in this proposal. Additionally, the complexity of the problem suggests the need for more degrees of freedom than those given by a single-input-singleoutput control architecture, based solely on glucose measurement and insulin infusion, leading to multivariable control approaches for the artificial pancreas. However, this involves additional challenges, as misinterpretations by the control system of additional signals, that need to be treated properly in the fault mitigation modules.

The overall objective of this project is the design of an efficient and safe artificial pancreas in normal free-living use, by means of new multivariable reconfigurable fault-tolerant control architectures. Specifically, the proposal will address:

(1) The use of additional inputs aside glucose measurements, either from monitoring devices or new patient interventions, for the improvement of performance under exercise and mixed meals of varying nutritional composition with alcohol intake. Techniques based on slidingmode reference conditioning will be at the core of the developments due to its success in improving postprandial control in a recent controlled study by the group. A metabolic study analyzing the glycemic impact of alcohol and meal composition will be carried out.
(2) The use of additional control actions, aside insulin infusion, for the minimization of hypoglycemia risk under challenging scenarios with fast glucose drop such as exercise. Dual-hormone systems with coordinated insulin and glucagon infusion will be explored and compared in a clinical study to rescue carbs warnings.
(3) The development of new tools for patient's supervision, including the classification and detection of free-living scenarios, with the extension of the concept of fault beyond

instrumentation to patient's anomalous metabolic states and human factors, as well as prediction of risks based on stochastic and hybrid modelling.

As a result of the project, a new smartphone-based multivariable reconfigurable fault-tolerant artificial pancreas system will be built including the methods developed and evaluated in the last phase of the project in a pilot 3-month outpatient study.

IMSERIOUS: Advances in digital content for serious games

Reference: TIN2013-47276-C06-01-R
Start date: 01/01/2014 **End date:** 31/12/2016
Funding entity: MINECO **Grant**: € 162,976
Coordinator: Mateu Sbert, Miquel Feixas

Summary

SuperData Research group reported that the US digital games market reached $1,032 million in total sales in October, with an increase of 11% in October, 2013, compared to the same month last year. Serious games are a part of the game market which is also growing fast and becoming more and more popular. Upon the report of Ambient Insight, The US Serious Games Market: Segment Size and Opportunity, August 2011, the serious game market in US, will reach about $2,5 billions by 2015. Ambient Insight reports that involvement of academic institutions in game based learning initiatives and entrepreneurial accelerators supports the learning market.

A serious game is defined as a game with specific intention such as education, training, treatment, skill enhancement, widely used in many areas including military, health care, business management, or social science. As game technology is widely used nowadays in simulation serious game concept includes both simulated based learning and game based learning. The term Serious Games was introduced by David Rejeski and Ben Sawyer, in the white paper Serious Games Initiative (2002), as entertaining games with non entertainment goals. Since this first definition, many different ones have been proposed. Amongst them, D. Michael and S. Chen (Serious games: games that educate, train, and inform, Boston MA: Course Technology PTR, 2005) defined serious games as games that educate, train and inform. Although there is no single definition of the serious game concept, all the proposed definitions convey the same idea which is using games to teach or transmit skills. This has led some analysts to describe them as the next wave of technology-mediated learning. As an example, in the health and medical context, serious games are designed to educate and train health care professionals to avoid medical errors or in rehabilitation processes, to reproduce the repetitive tasks that have to be done by the patients. As is expressed by Michael Foley, from Ambient Insight "technology may not directly cure people but it can be used to educate the entire population, from active youth to parents to grandparents, and to help them look after their own health."

At the same time the technological challenge is enormous and the expectations of industry and consumers are still far from being satisfied. Thus new advances in this field attained through technological research are required. In this direction, the proposed project deals with different aspects related to the design and development of serious games covering the whole pipeline of creation of a serious game, including: the automatic creation of virtual worlds, the improvement in realism in its rendering, the management of contents and the interaction with the user. It will also be investigated how well the serious game concepts can be brought to mobile devices. The tablet for instance is considered by Michael Foley a game changer in health applications.

The improvements in this project will be demonstrated in the development of several serious games in fields like education and e-learning, social networks, geographic information systems, cultural heritage and medical applications.

This project includes multidisciplinary teams, as serious games by nature are multidisciplinary, requiring the expertise from computer scientists, education technology practitioners, industrial simulation engineers, music&sound technology experts, art professors and industrial engineers.

Education

PhD Programs

- Doctoral Programme in Technology

Master Programs

- Master in Smart Cities

PhD Theses 2016

PhD Student	Dissertation	Place and time	Advisor/advisors
Raissel Ramirez Orozco	High Dynamic Range Content Acquisition from Multiple Exposures	Universitat de Girona, 29 January 2016	Alessandro Artusi Celine Loscos Ignacio Martín
Ester Bonmatí	Study of brain complexity using information theory tools	Universitat de Girona, 5 February 2016	Anton Bardera Imma Boada
Inès Ferrer Mallorquí	Modal interval based package for robust control	Universitat de Girona, 17 June 2016	Josep Vehí
Yeimy Liceth Morales Pérez	Constraint-based metabolic models and their application in industrial biotechnology	Universitat de Girona, 12 July 2016	Francisco Llaneras Josep Vehí

Master theses 2016

Master in Smart Cities

Student	Dissertation	Place and time	Tutor / Tutors
Albert Tàpia Pagès	Proposals for converting a city in a smart touristic destination, improving the touristic attractiveness and boosting the local economy	Universitat de Girona, 9 September 2016	Josep Lluís de la Rosa
David Rodriguez Relucio	Introducció a les aplicacions mòbils. Porta a porta i deixalleria app.	Universitat de Girona, 9 September 2016	Josep Antoni Ramon
Federico Luque i Carrillo	Anàlisi de les dades del trànsit urbà amb sensors de superfície. El cas de Figueres	Universitat de Girona, 8 September 2016	Beatriz López
Fernando Campos Martinez	Especificación de una solución vertical de adquisición de datos para Smart Cities	Universitat de Girona, 8 September 2016	Carles Pous
Gerard Gassol Quilez	Study of mobility in the city of Adelaide by analyzing data on people means of movement	Universitat de Girona, 8 September 2016	Andres El-Fakdi
Islam Bouzguenda	Perspectives on Citizen Participation for the Digital Age; Urban Development Based Research and Case Study	Universitat de Girona, 9 September 2016	Sergi Nuss Girona
Jaume Sala	Evaluation of best practices regarding the process of sharing data between governments and citizens and the use of map visualization techniques	Universitat de Girona, 9 September 2016	Mateu Sbert
Jorge Aracena Velez	Análisis de datos de sensores para el tráfico vehicular en las rutas de entradas y salidas de Santiago	Universitat de Girona, 8 September 2016	Joan Vicente Rufí
Marc Fortuny Calero	APPTUU	Universitat de Girona, 9 September 2016	Josep Lluis de la Rosa
Nil Juvanteny Planagumà	Guia per a Edificis Públics d'Energia quasi Zero	Universitat de Girona, 8 September 2016	Joaquim Meléndez Frigola
Norbert Figueras Diaz	Climatització eficient d'equipaments sotmesos a reserva	Universitat de Girona, 08 September 2016	Joaquim Meléndez Frigola
Paola Andrea González Montoya	Green Hives	Universitat de Girona, 08 September 2016	Sergi Nuss Girona

Publications in ISI journals

A Gamut-Mapping Framework for Color-Accurate Reproduction of HDR Images
Sikudova, Elena; Pouli, Tania; Artusi, Alessandro; Akyuz, Ahmet Oguz; Banterle, Francesco; Mazlumoglu, Zeynep Miray; Reinhard, Erik
IEEE Computer Graphics and Applications, Volume: 36, Issue: 4, Pages: 78-90

A necessary and sufficient condition for the inequality of generalized weighted means
Sbert, Mateu; Poch, Jordi
Journal of Inequalities and Applications, Article Number: 292

A new e-learning platform for radiology education (RadEd)
Xiberta, Pau; Boada, Imma
Computer Methods and Programs in Biomedicine, Volume: 126, Pages: 63-75

A novel web-based approach for visualization and inspection of reading difficulties on university students
Carolina Mejía, Beatríz Florian, Ravi Vatrapu, Susan Bull, Sergio Gómez, Ramon Fabregat
IEEE Transactions on Learning Technologies, Volume: 10, Issue: 1, Pages 53-67

A review of personalized blood glucose prediction strategies for T1DM patients
Silvia Oviedo, Josep Vehí, Remei Calm, Joaquim Armengol
International Journal for Numerical Methods in Biomedical Engineering

Automatic Creation and Correction of Mathematical Problems
Poch, Jordi; Boada, Imma; Soler, Josep; Prados, Ferran
International Journal of Engineering Education, Volume: 32, Issue: 1, Pages: 150-162, Part: A

Automatic detection of exercise in people with type 1 diabetes using an unscented kalman filter
Charrise M. Ramkissoon, Pau Herrero, Jorge Bondia, Pantelis Georgiou, Nick Oliver, Josep Vehí
Diabetes Technology and Therapeutics, Volume: 18, Issue: S1, A56 (135)

Bag-of-steps: Predicting Lower-limb Fracture Rehabilitation Length
Albert Pla, Natalia Mordvanyuk, Beatriz López, Marco Raaben, Taco J. Blokhuid, Herman R. Holstlag
Neurocomputing

Better Postprandial Glucose Control with a New Closed-Loop System as Compared with Open-Loop Treatment in Patients with Type 1 Diabetes
Rossetti, Paolo; Quiros, Carmen; Moscardo, Vanessa; Comas, Anna; Gimenez, Marga; Ampudia-Blasco, Francisco Javier; Leon, Fabian; Montaser, Eslam; Conget, Ignacio; Bondia, Jorge; Vehi, Josep
Diabetes, Volume: 65, Pages: A258-A258, Supplement: 1, Meeting Abstract: 994-P

Better postprandial glucose control with a new closed-loop system as compared with open-loop treatment in patients with type 1 diabetes
C Quiros, M Gimenez, P Rossetti, V Moscardo, A Comas, FJ Ampudia, F Leon, E Montaser, I Conget, J Bondia, J Bondia, J Bondia, J Vehi
Diabetologia, Volume: 59, Pages: S408-S408, Supplement: 1, Meeting Abstract: 852

Chapter Eight Effect Of Distributed Generation In The Location Of Faults By Means Of Impedance-Based Method
J. Meléndez, S. Herraiz
Renewable Energy, Selected Issues, Volume: 1, Page: 132

Checking Multi-domain Policies in SDN
Maldonado-Lopez, F. A.; Calle, E.; Donoso, Y.
International Journal of Computers Communications & Control, Volume: 11, Issue: 3, Pages: 428-440

Compatibility of municipal services based on service similarity
Robert Rusek, Maria-Lluïsa Marsal-Llacuna, Ferran Torrent Fontbona, Joan Colomer Llinas
Cities, Volume: 59, Pages: 40-47

Decision support for grid-connected renewable energy generators planning
Torrent-Fontbona, F.; Lopez, B.
Energy, Volume: 115, Part 1, Pages: 577-590

Fast Agglomerative Information Bottleneck Based Trajectory Clustering
Guo, Yuejun; Xu, Qing; Fan, Yang; Liang, Sheng; Sbert, Mateu
Neural Information Processing, ICONIP 2016, PT III, Lecture Notes in Computer Science, Volume: 9949, Pages: 425-433

Innovative technologies for reducing structural vibrations due to natural events and human activities
Nicola Caterino, Christos T. Georgakis, Ningsu Luo, Julian Londono Monsalve
Shock and Vibration, Volume: 2016, Article ID: 2181509

JPEG XT: A Compression Standard for HDR and WCG Images
Artusi, Alessandro; Mantiuk, Rafal K.; Richter, Thomas; Korshunov, Pavel; Hanhart, Philippe; Ebrahimi, Touradj; Agostinelli, Massimiliano
IEEE Signal Processing Magazine, Volume: 33, Issue: 2, Pages: 118-124

JPEG XT: A New Family of JPEG Backward-Compatible Standards
Richter, Thomas; Artusi, Alessandro; Ebrahimi, Touradj
IEEE Multimedia, Volume: 23, Issue: 3, Pages: 80-88

k-Anonymous microaggregation with preservation of statistical dependence
Rebollo-Monedero, David; Forne, Jordi; Soriano, Miguel; Puiggali Allepuz, Jordi
Information Sciences, Volume: 342, Pages: 1-23

Mixing tone mapping operators on the GPU by differential zone mapping based on psychophysical experiments
Banterle, Francesco; Artusi, Alessandro; Sikudova, Elena; Ledda, Patrick; Bashford-Rogers, Thomas; Chalmers, Alan; Bloj, Marina
Signal Processing-Image Communication, Volume: 48, Pages: 50-62

Modeling citizens' urban time-use using adaptive hypermedia surveys to obtain an urban planning, citizen-centric, methodological reinvention
ML Marsal-Llacuna, R Fabregat-Gesa
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New approach in modeling Cr(VI) sorption onto biomass from metal binary mixtures solutions
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