Scientific production ensuing from the theses defended on the PhD programme in Information and Communications Technology

Year of viva	Doctorand	Thesis title
2015	Salvador Alcaraz Carrasco	Deploying an improvement for web traffic QoS over DiffServ

Ensuing scientific contributions:

Publications in JCR journals

1. Pedro Juan Roig, Salvador Alcaraz, and Katja Gilly. Formal specification of Spanning Tree Protocol using ACP, Elektronika Ir Elektrotechnika, vol. 23, no. 2, pp. 84-91, 2017.

2. Pedro Juan Roig, Salvador Alcaraz, Katja Gilly, and Carlos Juiz. Study on OSPF algebraic formal modelling using ACP, Elektronika Ir Elektrotechnika, vol. 24, no. 4, pp. 77-83, 2018.

3. Pedro Juan Roig, Salvador Alcaraz, Katja Gilly and Carlos Juiz. Modelling VM Migration in a Fog Computing Environment, Elektronika Ir Elektrotechnika, vol. 25, no. 5, pp. 75-81, 2019.

Conference papers

4. Roig, P.J., Alcaraz, S., Gilly, K. and Juiz, C. Algebraic Formal Modelling for EIGRP using ACP - Formal Description Modelling on EIGRP Routing Protocol, Proceedings of SIMULTECH, Porto (Portugal), 2018.

5. Roig, P.J., Alcaraz, S., Gilly, K. and Juiz, C. OSPF Algebraic Formal Modelling using ACP - A Formal Description on OSPF Routing Protocol, Proceedings of ICETE, Porto (Portugal), 2018

Year of viva	Doctorand	Thesis title
2016	Gabriel Moyà Alcover	Scene Modelling for Vision-Based Interactive Systems in Rehabilitation Contexts

Ensuing scientific contributions:

Publications in JCR journals

1. Jaume-i-Capó, A., Martínez-Bueso, P., Moyà-Alcover, G., and Varona, J. Interactive Rehabilitation System for Improvement of Balance Therapies in People with Cerebral Palsy, IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014.

2. Ines Ayed, Gabriel Moyà-Alcover, Pau Martínez-Bueso, Javier Varona, Adel Ghazel, and Antoni Jaume-i-Capó. Validation of RGBD devices forbalance clinical measurement: the functional reach test with Microsoft Kinect, Revista Iberoamericana de Automática e Informática Industrial, 2016.

3. Gabriel Moyà-Alcover, Ahmed Elgammal, Antoni Jaume-i-Capó, and Javier Varona. Modelling depth for nonparametric foreground segmentation using RGBD devices, Pattern Recognition Letters, 2017.

4. Ines Ayed, Adel Ghazel, Antoni Jaume-i-Capó, Gabriel Moya-Alcover, Javier Varona, and Pau Martínez-Bueso. Feasibility of Kinect-Based Games for Balance Rehabilitation: A Case Study, Journal of Healthcare Engineering, 2018.

5. Esperança Amengual Alcover, Antoni Jaume-i-Capó, and Biel Moyà-Alcover; PROGame: A process framework for serious game development for motor rehabilitation therapy, PLOS ONE, 2018.

Conference papers

6. Moyà-Alcover, G., Jaume-i-Capó, A., Varona, J., Martínez-Bueso, P., and Mesejo Chiong, A. Use of serious games for motivational balance rehabilitation of cerebral palsy patients, 13th International ACMSIGACCESS Conference on Computers and Accessibility, 2012.

7. Jaume-i-Capó, A., Moyà-Alcover, G., Varona, J., Martínez-Bueso, P., and Mesejo Chiong, A. Motivational rehabilitation using vision-based serious games, Ninth IASTED International Conference on Biomedical Engineering, 2012.

8. Ines Ayed, Gabriel Moyà-Alcover, Pau Martínez-Bueso, Adel Ghazel, Javier Varona, Antoni Jaume-i-Capó, and Francisco J. Perales. RGBD-based Serious Games for Fall Prevention in Elderly People, 8th International Conference on Games and Virtual Worlds for Serious Applications (VS-GAMES), 2016.

9. Massimo Camplani, Lucia Maddalena, Gabriel Moyà-Alcover, Alfredo Petrosino, and Luis Salgado. A benchmarking framework for background subtraction in RGBD videos, International Conference on Image Analysis and Processing, 2017.

Book chapters

10. Antoni Jaume-i-Capó, Gabriel Moyà-Alcover, and Javier Varona. Design Issues for Vision-Based Motor-Rehabilitation Serious Games, Technologies of Inclusive Well-Being, Springer, 2014.

Year of viva	Doctorand	Thesis title
2017	David Gessner	Adding Fault Tolerance to a Flexible Real-Time Ethernet Network for Embedded Systems

Ensuing scientific contributions:

Publications in JCR journals

1. D. Gessner, M. A. Barranco, and J. Proenza. Design and verification of a media redundancy management driver for a CAN star topology, IEEE Transactions on Industrial Informatics, vol. 9, no. 1, pp. 237-245, 2013.

2. D. Gessner, M. A. Barranco, A. Ballesteros, and J. Proenza. sfiCAN: a Star-based Physical Fault-Injection Infrastructure for CAN networks, IEEE Transactions on Vehicular Technology, vol. 63, no. 3, pp. 1335-1349, 2014.

3. D. Gessner, J. Proenza, M. A. Barranco, and A. Ballesteros. A Fault-Tolerant Ethernet for Hard Real-Time Adaptive Systems, IEEE Transactions on Industrial Informatics, vol. 15, no. 5, pp. 2980 - 2991, 2019.

Conference papers

4. D. Gessner, J. Proenza, M. A. Barranco, and L. Almeida. Towards a Flexible Time-Triggered Replicated Star for Ethernet, 18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Cagliari (Italy), 2013.

5. D. Gessner, J. Proenza, and M. A. Barranco. A Proposal for Master Replica Control in the Flexible Time-Triggered Replicated Star for Ethernet, 10th IEEE International Workshop on Factory Communication Systems (WFCS), Toulouse (France), 2014.

6. D. Gessner, J. Proenza, and M. A. Barranco. A Proposal for Managing the Redundancy Provided by the Flexible Time-Triggered Replicated Star for Ethernet, 10th IEEE International Workshop on Factory Communication Systems (WFCS), Toulouse (France), 2014.

7. D. Gessner, P. Portugal, J. Proenza, and M. A. Barranco. Towards a reliability analysis of the design space for the communication subsystem of FT4FTT, 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), 2014.

8. D. Gessner, I. Alvarez, A. Ballesteros, M. A. Barranco, and J. Proenza. Towards an Experimental Assessment of the Slave Elementary Cycle Synchronization in the Flexible Time-Triggered Replicated Star for Ethernet, 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Barcelona (Spain), 2014.

9. D. Gessner, A. Ballesteros, A. Adrover, and J. Proenza. Experimental Evaluation of Network Component Crashes and Trigger Message Omissions in the Flexible Time-Triggered Replicated Star for Ethernet, IEEE World Conference on Factory Communication Systems (WFCS), Palma de Mallorca (Spain), 2015.

10. D. Gessner, I. Furió, and J. Proenza. Towards a Layered Architecture for the Flexible Time-Triggered Replicated Star for Ethernet, 20th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Luxemburg, 2015.

Year of viva	Doctorand	Thesis title
2018	Béatrix Barafort	Integrated Risk Management Process Improvement Framework in IT Settings based on ISO Standards

Ensuing scientific contributions:

Publications in JCR journals

1. Barafort, B., Mesquida, A.L., and Mas, A. Integrated Risk Management Process Assessment Model for IT Organizations based on ISO 31000 in an SO Multi-Standards Context, Computer Standards & Interfaces, vol. 60, pp. 57-66, 2018.
2. Barafort, B., Mesquida, A.L. and Mas, A. ISO 31000□based integrated risk management process assessment model for IT organizations. Journal of Software: Evolution and Process, 2018.
3. Barafort, B., Mesquida, A.L. and Mas, A. Integrating risk management in IT settings from ISO standards and management systems perspectives. Computer Standards & Interfaces, 2016.

Conference papers

1. Barafort, B., Mesquida, A.L., and Mas, A. How to Integrate Risk Management in IT Settings within Management Systems? Comparison and Integration Perspectives from ISO Standards, in Clarke P., O'Connor R., Rout T., Dorling A. (eds), Software Process Improvement and Capability Determination (SPICE). Communications in Computer and Information Science, vol. 609, Springer, 2016.
2. Barafort, B. Mesquida, A.L., and Mas, A. Integración de la Gestión de Riesgos en entornos de TI, in Ruiz, F. (Ed.), XXII Jornadas de Ingeniería del Software y Bases de Datos (JISBD), 2017.
3. Barafort, B., Mesquida, A.L., and Mas, A. How to elicit Processes for an ISO-based Integrated Risk Management Process Reference Model in IT settings? in Stolfa J., Stolfa S., O'Connor R., Messnarz R. (eds), Systems, Software and Services Process Improvement (EuroSPI), Communications in Computer and Information Science, vol. 748, Springer, 2017.
4. Barafort, B., Mesquida, A.L., and Mas, A. Developing an Integrated Risk Management Process Model for IT Settings in an ISO Multi-Standards Context, in Mas A., Mesquida A., O'Connor R., Rout T., Dorling A. (eds), Software

Process Improvement and Capability Determination (SPICE), Communications in Computer and Information Science, vol. 770, Springer, 2017.

Year of viva	Doctorand	Thesis title
2018	Pedro Bibiloni Serrano	Curvilinear Object Detection with Fuzzy Mathematical Morphology for Grayscale and Color Medical Imagery

Ensuing scientific contributions:

Publications in JCR journals

1. Pedro Bibiloni, Manuel González-Hidalgo, and Sebastià Massanet. A Survey on curvilinear object segmentation in multiple applications, Pattern Recognition, vol. 60, pp. 949-970, 2016.

2. Bibiloni, P., González-Hidalgo, M., Massanet, S. General-purpose Curvilinear object detection with fuzzy mathematical morphology, Applied Soft Computing, vol. 60, pp. 655-669, 2017.

3. Bibiloni, P., González-Hidalgo, M., Massanet, S. A real-time fuzzy morphological algorithm for retinal vessel segmentation, Journal of Real-Time Image Processing, vol. 16, no. 6, pp. 2337-2350, 2019.

4. Bibiloni, P., González-Hidalgo, M., Massanet, S. Soft Color morphology: A fuzzy approach for multivariate images, Journal of Mathematical Imaging and Vision, vol. 61, no. 3, pp. 394-410, 2019.

Conference papers

5. Bibiloni, P., González-Hidalgo, M., Massanet, S. Vessel Segmentation of Retinal Images with Fuzzy Morphology, Thematic Conference on Computational Vision and Medical Image Processing, pp. 131 – 136, Tenerife (Spain), 2015.

6. Bibiloni, P., González-Hidalgo, M., Massanet, S. Retinal vessel detection based on fuzzy morphological line enhancement, Advances in Artificial Intelligence (Lecture Notes in Computer Science, vol. 9422 – 1), pp. 61 – 70 (Switzerland), 2015.

7. Bibiloni, P., González-Hidalgo, M., Massanet, S. Detección de estructuras curvilíneas usando la transformación morfológica borrosa todo-nada, XVIII Congreso Español sobre Tecnologías y Lógica Fuzzy (ESTYLF), San Sebastián (Spain), 2016.

8. P. Bibiloni, M. González-Hidalgo, S. Massanet, A. Mir, D. Ruiz-Aguilera. Soft Computing Based Technique for Optic Disc and Cup Detection in Digital Fundus Images, VipIMAGE (6th ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing), Porto (Portugal), 2017.

9. Bibiloni, P., González-Hidalgo, M., Massanet, S., Mir, A., Ruiz-Aguilera, D. Fuzzy Black top-hat and hit-or-miss transformations and their applications, Symposia on Mathematical Techniques Applied to Data Analysis and Processing. pp. 37-38, Malaga (Spain), 2017.

10. Bibiloni, P., González-Hidalgo, M., Massanet, S. Soft Color morphology, IEEE International Conference on Fuzzy Systems, Naples (Italy), 2017.

11. Bibiloni, P., González-Hidalgo, M., Massanet, S. Skin Hair removal in dermoscopic images using soft color morphology. Artificial Intelligence in Medicine (Lecture Notes in Computer Science, vol. 10259), pp. 322 – 326, Vienna (Austria), 2017.

12. Bibiloni, P., González-Hidalgo, M., Massanet, S., Mir, A., Ruiz-Aguilera, D. Fuzzy Hit-or-Miss transform using uninorms, 15th International Conference on Modeling Decisions for Artificial Intelligence (Lecture Notes in Computer Science vol. 11144), pp. 101–113, Palma (Spain), 2018.

Book chapters

13. Bibiloni, P., González-Hidalgo, M., Massanet, S., Mir, A., Ruiz-Aguilera, D. Mayor-Torrens t-norms in the Fuzzy Mathematical Morphology and Their Applications. Fuzzy Logic and Information Fusion, book to commemorate the 70th birthday of Professor Gaspar Mayor, pp. 201–235, Springer, 2016.

Year of viva	Doctorand	Thesis title
2018	Sinisa Derasevic	Node Fault Tolerance for Distributed Embedded Systems based on FTT-Ethernet

Ensuing scientific contributions:

Publications in JCR journals

1. I. Alvarez, A. Ballesteros, M. A. Barranco, D. Gessner, S. Derasevic, and J. Proenza. Fault Tolerance in Highly-Reliable Ethernet-based Industrial Systems, Proceedings of the IEEE, vol. 107, no. 6, pp. 977-1010, 2019.

2. M. A. Barranco, S. Derasevic, and J. Proenza. An Architecture for Highly Reliable Fault-Tolerant Adaptive Distributed Embedded Systems, Computer, vol. 53, no. 3, pp. 38-46, 2020.

Conference papers

3. S. Derasevic, J. Proenza, and D. Gessner. Towards Dynamic Fault Tolerance on FTT-based Distributed Embedded Systems, 18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Cagliari (Italy), 2013.

4. S. Derasevic, M. A. Barranco, and J. Proenza. Appropriate consistent replicated voting for increased reliability in a node replication scheme over FTT, 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Barcelona (Spain), 2014.

5. S. Derasevic, J. Proenza, and M. A. Barranco. Using FTT-Ethernet for the coordinated dispatching of tasks and messages for node replication, 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Barcelona (Spain), 2014.

6. S. Derasevic, M. Melià, A. Ballesteros, M. A. Barranco, and J. Proenza. First Experimental Evaluation of the Consistent Replicated Voting in the Hard Real-Time Ethernet Switching architecture, 20th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), Luxembourg, 2015.

7. S. Derasevic, M. A. Barranco, and J. Proenza. An OMNET++ model to asses node fault-tolerance mechanisms for FTT-Ethernet DESs. 20th IEEE

International Conference on Emerging Technology and Factory Automation (ETFA), Luxembourg, 2015.

8. S. Derasevic, M. A. Barranco, and J. Proenza. Designing fault-diagnosis and reintegration to prevent node redundancy attrition in highly reliable control systems based on FTT-Ethernet. 12th IEEE World Conference on Factory Communication Systems (WFCS), Aveiro (Portugal), 2016.

Year of viva	Doctorand	Thesis title
2018	Jan García Morales	Analysis, Design and Optimization of Partial Frequency Reuse-Aided OFDMA-based Heterogeneous Cellular Networks

Ensuing scientific contributions:

Publications in JCR journals

1. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Analysis and Optimization of FFR-aided OFDMA-based Heterogeneous Cellular Networks, IEEE Access, vol. 4, pp. 5111-5127, 2016.

2. Jan García-Morales, Guillem Femenias, Felip Riera-Palou, and John S. Thompson. Multi-layer FFR-aided OFDMA-based networks using channel-aware schedulers, IEEE Access, vol. 6, pp. 7134-7147, 2017.

3. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Statistical analysis and optimization of a fifth-percentile user rate constrained design for FFR/SFR-aided OFDMA-based cellular networks. IEEE Transactions on Vehicular Technology, vol. 67, no. 4, pp. 3406-3419, 2017.

4. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Performance Analysis and Optimisation of FFR-Aided OFDMA Networks using Channel-Aware Scheduling, Mobile Networks & Applications, vol. 22, no. 6, pp. 1068-1082, 2017.

5. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. On the design of OFDMA-based FFR-aided irregular cellular networks with shadowing, IEEE Access, vol. 6, pp. 7641-7653, 2018.

6. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Higher order sectorization in FFR-aided OFDMA cellular networks: spectral- and energy-efficiency, IEEE Access, vol. 7, pp. 11127-11139, 2019.

Conference papers

7. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Channel-Aware Scheduling in FFR-aided OFDMA-based Heterogeneous Cellular Networks, 15th IEEE International Conference on Computer and Information Technology, Liverpool (UK), 2015.

8. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. On the Analysis of Channel-Aware Schedulers in OFDMA-Based Networks using FFR, 11th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, Abu Dhabi (United Arab Emirates), 2015.

9. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Downlink Optimisation of FFR-Aided OFDMA Networks using Channel-Aware Scheduling, XII Jornadas de Ingeniería Telemática (JITEL), Palma de Mallorca (Spain), 2015.

10. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Analytical Performance Evaluation of OFDMA-Based Heterogeneous Cellular Networks Using FFR, IEEE 81st Vehicular Technology Conference, Glasgow (UK), 2015.

11. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Characterizing and Optimizing the Throughput of FFR/SFR-aided OFDMA Networks, IEEE 27th Annual International Symposium on Personal, Indoor and Mobile Radio Communications, Valencia (Spain), 2016

12. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Statistical Analysis and Optimization of FFR/SFR-aided OFDMA-based Multi-Cellular Networks, IEEE Workshop on Statistical Signal Processing, Palma de Mallorca (Spain), 2016.

13. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. FFR-aided OFDMA-based Networks under Spatially Correlated Shadowing, 10th International Workshop on Selected Topics in Wireless and Mobile Computing, Rome (Italy), 2017.

14. Jan García-Morales, Guillem Femenias, and Felip Riera-Palou. Throughput Analysis and Optimization of Multi-layer FFR-aided OFDMA Networks, XIII Jornadas de Ingeniería Telemática (JITEL), Valencia (Spain), 2017.

Year of viva	Doctorand	Thesis title
2018	Mª Francesca Roig Maimó	Face Me! Head-Tracker Interface Evaluation on Mobile Devices

Ensuing scientific contributions:

Publications in JCR journals

1. Maria Francesca Roig-Maimó, Cristina Manresa-Yee and Javier Varona. A robust camera-based interface for mobile entertainment, MDPI Sensors, vol. 16, pp. 254-272, 2016.

2. Maria Francesca Roig-Maimó, I. Scott MacKenzie, Cristina Manresa-Yee and Javier Varona. Head-tracking interfaces on mobile devices: Evaluation using Fitts' law and a new multi-directional corner task for small displays, International Journal of Human-Computer Studies, vol. 112, pp. 1-15, 2018.

3. Maria Francesca Roig-Maimó, I. Scott MacKenzie, Cristina Manresa-Yee and Javier Varona. Fitts' law: On calculating throughput and non-ISO tasks, Revista Colombiana de Computación, vol. 19, pp. 7-28, 2018.

4. Cristina Manresa-Yee, Maria Francesca Roig-Maimó, and Javier Varona. Mobile accessibility: natural user interface for motion-impaired users, Universal Access in the Information Society, vol. 8, pp. 63-75, 2019.

Conference papers

5. Maria Francesca Roig-Maimó, Javier Varona Gómez, and Cristina Manresa-Yee. Face Me! Head-Tracker Interface Evaluation on Mobile Devices, ACM SIGCHI (Special Interest Group on Computer-Human Interaction), 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI), 2015.

6. Maria Francesca Roig-Maimó, Cristina Manresa-Yee, Javier Varona, and I. Scott MacKenzie. Evaluation of a Mobile Head-Tracker Interface for Accessibility, 15th International Conference on Computers Helping People with Special Needs (ICCHP), Linz (Austria), 2016.

7. Cristina Manresa-Yee, Maria Francesca Roig-Maimó and Javier Varona. Mobile Accessibility: A Head-tracker for Users with Motor Disabilities, 17th International Conference on Human Computer Interaction, Salamanca (Spain), 2016.

8. Maria Francesca Roig-Maimó, I. Scott MacKenzie, Cristina Manresa-Yee and Javier Varona. Evaluating Fitts' Law Performance with a non-ISO Task, 18th International Conference on Human Computer Interaction, Cancún (México), 2017.

9. Iosune Salinas Bueno, Javier Varona-Gómez, Katia San Sebastián Fernández, Maria Francesca Roig-Maimó, and Carlos Moreno Gómez. Criterios clínicos en el diseño de aplicaciones tecnológicas para la realización de ejercicio terapéutico cervical, XV Congreso Nacional de Fisioterapia, Logroño (Spain), 2017.

10. Maria Francesca Roig-Maimó, Javier Varona, and Cristina Manresa-Yee. Reflections on ESM in the Wild: The Case of a Mobile Head-Gesture Game, 19th International Conference on Human Computer Interaction, Palma (Spain), 2018.

11. Katia San-Sebastián-Fernández, Javier Varona, Maria Francesca Roig-Maimó and Iosune Salinas-Bueno. Clinical evaluation of a mobile app for therapeutic exercise for neck pain, Second International Conference on Accessibility, Inclusion and Rehabilitation using Information Technologies, Palma (Spain), 2018.

12. Maria Francesca Roig-Maimó, and Ramon Mas-Sansó. Collateral effects of the Kalman Filter on the Throughput of a Head-Tracker for Mobile Devices, 27th International Conference on Computer Graphics, Visualization and Computer Vision (WSCG), Plzen (Czech Republic), 2019.

13. Maria Francesca Roig-Maimó and Ramon Mas-Sansó. The Female Effect: The Case of Gender Parity on User Studies (premio M. Carmen Marcos al mejor artículo científico), Workshop on Engendering Technologies 2019 – 20th International Conference on Human Computer Interaction, San Sebastián (Spain), 2019.

14. Antonio Arenas, Javier Varona, Maria Francesca Roig-Maimó, Katia San-Sebastián Fernández, Iosune Salinas-Bueno, and Cristina Manresa-Yee. Therapeutic Exercise Based on Videogames to Improve Neck Pain, 20th International Conference on Human Computer Interaction, San Sebastián (Spain), 2019.

Book chapters

15. Cristina Manresa-Yee, Ann Morrison, Joan Jordi Muntaner and Maria Francesca Roig-Maimó. Multi-sensory environmental stimulation for users with multiple disabilities, Recent advances in technologies for inclusive well-being: From

worn to off-body sensing, virtual worlds, and games for serious applications, vol. 119, pp. 165-182, Springer, 2017.

Year of viva	Doctorand	Thesis title
2019	Miquel Massot Campos	New Insights on Laser-based Structured Light for Underwater 3D Reconstruction

Ensuing scientific contributions:

Publications in JCR journals

1. Francisco Bonin-Font, Gabriel Oliver, Stephan Wirth, Miquel Massot Campos, Pep Luís Negre, and Joan Pau Beltran. Visual Sensing for Autonomous Underwater Exploration and Intervention Tasks, Ocean Engineering, vol. 93, pp. 25-44, 2014.

2. Miquel Massot Campos and Gabriel Oliver-Codina. Optical Sensors and Methods for Underwater 3D Reconstruction, MDPI Sensors, vol. 15, no. 12, pp. 31525-31557, 2015.

Conference papers

3. Miquel Massot Campos and Gabriel Oliver Codina. Underwater laser-based structured light system for one-shot 3D reconstruction, IEEE Sensors Conference, 2014.

4. Miquel Massot Campos and Gabriel Oliver Codina. One-Shot Underwater 3D Reconstruction, IEEE International Conference on Emerging Technologies and Factory Automation, 2014.

5. Miquel Massot Campos, Gabriel Oliver, Hashim Kemal, Yvan Petillot, and Francisco Bonin-Font. Structured light and stereo vision for underwater 3D reconstruction, IEEE/MTS Oceans Conference, 2015.

6. Miquel Massot Campos, Francisco Bonin Font, Pep Luís Negre Carrasco, Eric Guerrero, Antoni Martorell, and Gabriel Oliver Codina. A 3D mapping, obstacle avoidance and acoustic communication payload for the AUV SPARUS II, Instrumentation Viewpoint (MARTECH Workshop), no. 19, pp. 31-33, 2016.

7. Miquel Massot Campos, Gabriel Oliver, Adrian Bodenmann, and Blair Thornton, Submap bathymetric SLAM using structured light in underwater environments, IEEE/OES Autonomous Underwater Vehicles Symposium (AUV), pp. 181-188, 2016.

8. Michael Leat, Adrian Bodenmann, Miquel Massot Campos, and Blair Thornton. Analysis of Uncertainty in Laser-Scanned Bathymetric Maps, IEEE/OES Autonomous Underwater Vehicles Symposium (AUV), 2018.

9. Miquel Massot Campos, Blair Thornton, and Gabriel Oliver. Laser stripe bathymetry using particle filter SLAM, in IEEE/MTS Oceans Conference, 2019.

Year of viva	Doctorand	Thesis title
2019	Jamila Mifdal	Applications du transport optimal et des méthodes non locales à la fusion d'images hyperspectrales et multispectrales

Ensuing scientific contributions:

Publications in JCR journals

1. Mifdal, J., Coll, B., Froment, J. and Duran, J. Variational fusion of hyperspectral data by conditional filtering, IEEE Transactions on Image Processing, num. 909254, 2020 (in press)

Conference papers

2. J. Mifdal, B. Coll and J. Duran. A Variational Formulation for Hyperspectral and Multispectral Image Fusion, in Proc. of 25th IEEE Int. Conf. on Image Processing (ICIP), pp. 3328-3332, Athens (Greece), 2018.

3. J. Mifdal, B. Coll, N. Courty, J. Froment, and B. Vedel. Hyperspectral and multispectral Wasserstein barycenter for image fusion, Proc. IEEE IGARSS, Texas (USA), 2017.

4. J. Mifdal, B. Coll, N. Courty, J. Froment, and B. Vedel. Hyperspectral and multispectral image fusion based on optimal transport, Workshop SIGMA'2016: SIGNAL, IMAGE, GEOMETRY, MODELLING, APPROXIMATION, Marseille (France), 2016.

Year of viva	Doctorand	Thesis title
2019	Juan José Miñana Prats	On Aggregation and Transformation of Generalized Metrics and its Applications

Ensuing scientific contributions:

Publications in JCR journals

1. J. J. Miñana and O. Valero. On partial metric preserving functions and their characterization, Filomat (in press), 2020.

2. J. J. Miñana and O. Valero. On Matthews' relationship between quasi-metrics and partial metrics: an aggregation perspective, Results in Mathematics, vol. 75, no. 47, 2020.

3. J. J. Miñana and O. Valero. Characterizing quasi-metric aggregation functions, International Journal of General Systems, vol. 48, no. 8, pp. 890-909, 2019.

4. J. J. Miñana and O. Valero. Are fixed point theorems in G-metric spaces an authentic generalization of their classical counterparts?, Journal of Fixed Point Theory and Applications, vol. 21, no. 70, 2019.

5. V. Gregori, J. J. Miñana, and O. Valero. A technique for fuzzifying metric spaces via metric preserving, Fuzzy Sets and Systems, vol. 330, pp. 1-15, 2018.

6. J. J. Miñana and O.Valero. A duality relationship between fuzzy metrics and metrics, International Journal of General Systems, vol. 47, no. 6, pp. 593-612, 2018.

7. J. Guerrero, J. J. Miñana, O. Valero and G. Oliver. Indistinguishability Operators Applied to Task Allocation Problems in Multi-Agent Systems, Applied Sciences, vol. 7, no. 10, pp. 1-16, 2017.

8. J. J. Miñana and O. Valero. On Indistinguishability Operators, Fuzzy Metrics and Modular Metrics, Axioms, vol. 6, no. 34, pp. 1-18, 2017.

Conference papers

9. J. Guerrero, J. J. Miñana, and O. Valero. On the use of fuzzy preorders in multi-robot task allocation problem, 17th International Conference on Information

Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), pp. 195-206, 2018.

10. J. J. Miñana and O. Valero. What is the aggregation of a partial metric and a quasi-metric?, 17th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU), pp. 231-243, 2018.

11. J. Guerrero, J. J. Miñana, and O. Valero. A Comparative Analysis of Indistinguishability Operators Applied to Swarm Multi-Robot Task Allocation Problem, International Conference on Cooperative Design, Visualization and Engineering (CDVE), pp. 21-28, 2017.

12. J. J. Miñana. An Overview on Transformations on Generalized Metrics, Workshop Applied Topological Structures (WATS), pp. 95-102, 2017.

Year of viva	Doctorand	Thesis title
2019	Julia Navarro Oliver	Multi-View Imaging: Depth Estimation and Enhancement

Ensuing scientific contributions:

Publications in JCR journals

1. J. Navarro, and A. Buades. Semi-dense and robust image registration by shift adapted weighted aggregation and variational completion, Image and Vision Computing, vol. 89, pp. 258-275, 2019.

2. Buades, J. Duran, and J. Navarro. Motion-Compensated Spatio-Temporal Filtering for Multi-Image and Multimodal Super-Resolution, Int. J. of Computer Vision, vol. 127, no. 10, 1474-1500, 2019.

3. Buades, J. Navarro and R. Gromponne. Joint contours, corner and T-junction detection. An approach inspired by the mammal visual system, Journal of Mathematical Imaging and Vision, vol. 60, no. 3, pp. 341–254, 2018.

4. J. Navarro, and A. Buades, Robust and dense depth estimation for light field images, IEEE Transactions on Image Processing, vol. 26, no. 4, pp. 1873-1886, 2017.

Conference papers

5. J. Navarro, J. Duran, and A. Buades. Filtering and Interpolation of Inaccurate and Incomplete Depth Maps, in Proc. of 25th IEEE Int. Conf. on Image Processing (ICIP), pp. 1533-1537, Athens, Greece, 2018.

6. J. Navarro, and A. Buades. Disparity adapted weighted aggregation for local stereo, IEEE Int. Conference on Image Processing (ICIP), Beijing, 2017.

7. J. Navarro, and A. Buades. Cost Adaptive Window for Local Stereo Matching, International Conference on Computer Vision Theory and Applications (VISAPP), Porto (Portugal), 2017.

8. J. Navarro, and A. Buades, Reliable light field multiwindow disparity estimation, 23rd IEEE Int. Conf. on Image Processing (ICIP), pp. 1449-1453, Phoenix (USA), 2016.

Year of viva	Doctorand	Thesis title
2019	Javier Atanasio Pastor Pérez	Diseño y Optimización Multiobjetivo de Redes MIMO-OFDMA con Estaciones Base Cooperativas

Ensuing scientific contributions:

Publications in JCR journals

1. Javier Atanasio Pastor Pérez, Felip Riera Palou, and Guillem Femenias. Multi-objective optimization of coordinated multipoint-aided MIMO-OFDMA systems with frequency reuse, IEEE Access, vol. 5, pp. 15448-15467, 2017.

2. Javier Pastor-Pérez, Felip Riera-Palou, and Guillem Femenias. Analytical network-wide optimization of CoMP-aided MIMO-OFDMA irregular networks with frequency reuse: a multiobjective approach, IEEE Transactions on Communications, vol. 67, no. 3, pp. 2552-2568, 2019.

Conference papers

3. Javier Pastor-Pérez, Felip Riera-Palou, and Guillem Femenias. FFR-aided coordinated multipoint transmission in downlink multicell MIMO-OFDMA networks, 82nd IEEE Vehicular Technology Conference (VTC), Boston (USA), 2015.

4. Javier Pastor-Pérez, Felip Riera-Palou, and Guillem Femenias. Evolutionary algorithms for multiobjective optimization of frequency reuse schemes in CoMP-based MIMO-OFDMA networks, IEEE International Symposium on Wireless Communication Systems (ISWCS), Poznan (Poland), 2016.

5. Javier Pastor Pérez, Felip Riera-Palou, and Guillem Femenias. Clustering and subband allocation for CoMP-based MIMO-OFDMA networks with soft frequency reuse, IEEE European Wireless Conference (EW), Dresden (Germany), 2017.

6. Javier Pastor-Perez, Felip Riera-Palou, and Guillem Femenias. Analytical optimization of irregular CoMP-based MIMO-OFDMA networks with frequency reuse, 13th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Rome (Italy), 2017.

7. Javier Atanasio Pastor Pérez, Felip Riera-Palou, and Guillem Femenias. Optimization of irregular COMP-aided OFDMA networks with SFR: a multiobjective approach, IEEE Vehicular Technology Conference (VTC), Porto (Portugal), 2018.

Year of viva	Doctorand	Thesis title
2019	Silvia Ramis Guarinos	Facial Detection and Expression Recognition Applied to Social Robots

Ensuing scientific contributions:

Publications in JCR journals

1. S. Baldassarri, L. Passerino, S. Ramis, I. Riquelme, and F. J. Perales. Toward emotional interactive videogames for children with autism spectrum disorder, Universal Access in the Information Society, pp. 1-16, 2020.

2. J. L. Lisani, S. Ramis, and F. J. Perales. A Contrario Detection of Faces: A Case Example, SIAM Journal on Imaging Sciences, vol. 10, no. 4, pp. 2091-2118, 2017.

Publication in Scopus journals

3. J. L. Lisani, and S. Ramis. A Contrario Detection of Faces with a Short Cascade of Classifiers, Image Processing On Line, vol. 9, pp. 269-290, 2019.

Conference papers

4. S. Baldassarri, L. Passerino, S. Ramis, I. Riquelme, and F. J. Perales. Videogame-based case studies for improving communication and attention in children with ASD, 19th International Conference on Human Computer Interaction, 2018.

Year of viva	Doctorand	Thesis title
2020	Ines Ayed	Interactive Therapeutic Systems for Fall Prevention using Computer Vision Technologies

Ensuing scientific contributions:

Publications in JCR journals

1. Ayed, I., Alcover, B. M., Bueso, P. M., Varona, J., Ghazel, A., Jaume-i-Capó, A. Validación de dispositivos RGBD para medir terapéuticamente el equilibrio: el test de alcance funcional con Microsoft Kinect, Revista Iberoamericana de Automática e Informática Industrial, vol. 14, no. 1, pp. 115-120, 2017.

2. Ayed, I., Ghazel, A., Jaume-i-Capó, A., Moya-Alcover, G., Varona, J., and Martínez-Bueso, P. Feasibility of Kinect-Based Games for Balance Rehabilitation: A Case Study, Journal of Healthcare Engineering, 2018.

3. Ayed, I., Ghazel, A., Jaume-i-Capó, A., Moya-Alcover, G., Varona, J., and Martínez-Bueso, P. Vision-Based Serious Games and Virtual Reality Systems for Motor Rehabilitation: A Review Geared Toward a Research Methodology, International Journal of Medical Informatics, 2019.

Conference papers

4. Ayed, I., Ghazel, A., Jaume-i-Capo, A., Moya-Alcover, B., Varona, J., and Martinez-Bueso, P. Fall prevention serious games for elderly people using RGBD devices, 8th International Conference on Games and Virtual Worlds for Serious Applications (VS-GAMES), pp. 1-3, 2016.

5. Ayed, I., Moyà-Alcover, B., Martínez-Bueso, P., Varona, J., Ghazel, A., Jaume-i-Capó, A., and Perales-López, F. J. RGBD-based Serious Games for Fall Prevention in Elderly People, Cognitive Area Networks, vol. 1, no. 3, 2016.

6. Ayed, I., Moyà-Alcover, B., Martínez-Bueso, P., Varona, J., Ghazel, A., and Jaume-i-Capó, A. Balance Clinical Measurement Using RGBD Devices, International Conference on Articulated Motion and Deformable Objects, pp. 125-134, 2016.

7. Ayed, I., Alcover, G. M., Martínez-Bueso, P., Varona, J., Jaume-i-Capó, A., and Ghazel, A. Juegos serios para la prevención de caídas en personas mayores

mediante el uso de dispositivos RGBD, 26th Spanish Computer Graphics Conference, pp. 95-100, 2016.

Book chapters

8. Moyà-Alcover G., Ayed I., Varona J., and Jaume-i-Capó A. RGB-D Interactive Systems on Serious Games for Motor Rehabilitation Therapy and Therapeutic Measurements, in Rosin P., Lai YK., Shao L., Liu Y. (eds), RGB-D Image Analysis and Processing. Advances in Computer Vision and Pattern Recognition, Springer, 2019.

Year of viva	Doctorand	Thesis title
2020	Lucía Rotger García	New Balance Indices and Metrics for Phylogenetic Trees

Ensuing scientific contributions:

Publications in JCR journals

1. Gabriel Cardona, Arnau Mir, Francesc Rosselló, and Lucía Rotger. The expected value of the squared cophenetic metric under the Yule and the uniform models. Mathematical Biosciences, vol. 295, pp. 73-85, 2018.

2. Arnau Mir, Lucía Rotger, and Francesc Rosselló. Sound Colless-like balance indices for multifurcating trees. PLOS ONE, vol. 13, 2018.

3. Tomás M. Coronado, Arnau Mir, Francesc Rosselló, and Lucía Rotger. On Sackin's original proposal: The variance of the leaves' depths as a phylogenetic balance index. BMC Bioinformatics, vol. 21, no. 154, 2020.