

CURRICULUM VITAE

SURNAME AND NAME	Montrucchio Bartolomeo
-------------------------	-------------------------------

Academic Position

Qualification/Title	Associate professor
University	Politecnico di Torino
Department	DAUIN
Academic Recruitment Field	09/H1
Academic Discipline	ING-INF/05

Working experience

Dates (from .. to..)	from 1 April 2003 to 30 July 2015
Name and address of the Employer (Public or/and private institution/body)	Politecnico di Torino - DAUIN
Position held	Confirmed assistant professor (fixed-term contract from 1 April 2003 to 31 December 2003) - Politecnico di Torino - DAUIN - ING-INF/05
Main activities/responsibilities	University researcher
Dates (from .. to..)	from January 2002 to March 2003
Name and address of the Employer (Public or/and private institution/body)	Politecnico di Torino - DAUIN
Position held	Research assistant (Assegno di ricerca) - DAUIN - III Faculty (scientific director Prof. Claudio Demartini)
Main activities/responsibilities	research project "Soluzioni architeturali, protocolli di comunicazioni e applicazioni per l'integrazione delle reti di calcolatori"
Dates (from .. to..)	from January 1997 to April 1999
Name and address of the Employer (Public or/and private institution/body)	Politecnico di Torino - CeSIT
Position held	Technical assistant fixed-term contract (VI level) - Assistente tecnico a tempo determinato (VI qualifica funzionale)
Main activities/responsibilities	System management (Unix environment)
Dates (from .. to..)	from July 1996 to December 1996
Name and address of the Employer (Public or/and private institution/body)	Politecnico di Torino - CISIP

private institution/body)	
Position held	Unix system manager
Main activities/responsibilities	System management (Unix environment)

Education and Training

Date	19 February 2002
Institution which issued the degree	Politecnico di Torino
Type of Degree awarded (only Bachelor's Degree, Master of Science's Degree, PhD)	PhD in Computer and Control Engineering, thesis having title "Design and implementation of distributed environments and parallel algorithms for scientific visualization", tutor Prof. Claudio Demartini

1. Scientific Activity

The scientific activity of Bartolomeo Montrucchio is mainly focused on the following topics:

- computer vision;
- parallel and distributed computing;
- image processing and scientific visualization;
- motion estimation;
- wireless sensor networks, radio-frequency identification systems (RFID) and ubiquitous computing;
- quantum computing.

Bartolomeo Montrucchio has, in agreement with Scopus (Author ID 6603463265, 10 Dec 2020):

- h-index = 17
- 900 citations (total number) (in the last five years citations are 2020(87), 2019(136), 2018(86), 2017(71), 2016(69), 2015(59)); without self-citations the total number is 813; in the last 15 years the number of citations is 869
- 98 indexed documents.

Bartolomeo Montrucchio's WOS Researcher ID is E-7368-2014, while the ORCID ID is 0000-0003-0065-8614.

Bartolomeo Montrucchio is (co)author of several scientific publications categorized as follows (numbers refer to the full list of publications):

- 56 international journals (from 1 to 56 in the full list);
- 7 US or Eu granted patents (from 57 to 63 in the full list); these granted patents have been developed during contracts with Pirelli S.p.A; there are other patents, partially granted as Italian patents or just submitted, not reported here and linked to the research activity;
- 9 book chapters (from 64 to 72);
- 82 international conferences (from 73 to 154); number 86 won the first prize in the Student Paper Competition;
- 3 international database (from 155 to 157) (IEEE DataPort, open source);
- 1 italian journal and 2 italian conferences (from 158 to 160);
- 1 didactic book (in Italian), number 161.

Bartolomeo Montrucchio claims that all publications have been done with equal contribution of all authors.

Bartolomeo Montrucchio's Italian National Scientific Qualification for 09/H1 can be seen in Attachment 1.

The three most important outcomes are:

(number 14 in the full list) (61 citations [Scopus]) B. Montrucchio and D. Quaglia, "New Sorting-Based Lossless Motion Estimation Algorithms and a Partial Distortion Elimination Performance Analysis", IEEE Transactions on Circuits and Systems for Video Technology, Vol. 15, No. 2, February 2005, pp. 210-220, ISSN 1051-8215, United States, DOI: 10.1109/TCSVT.2004.841689.

The paper has been selected since for citations (it has not self-citations) and for editorial level it represents an example of original research (two authors only) and of good spreading.

The paper analyzes distortion behavior from the theoretical point of view and introduces new algorithms to improve searching and matching phases in block motion estimation. It also uses the concept of wizard, in order to understand which would be the optimal performance for the algorithms. Bartolomeo Montrucchio, in particular, has contributed to proposing the two fast full search algorithms and to creating the wizard.

(23) (68 citations) F. Gandino, B. Montrucchio, M. Rebaudengo, and E. Sanchez, "On improving automation by integrating rfid in the traceability management of the agri-food sector," IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol. 56(7), pp. 2357–2365, 2009, DOI: 10.1109/TIE.2009.2019569, United States.

This paper, with several citations, introduces a framework for the evaluation of a traceability system for the agri-food industry. Moreover the automation level in an RFID-based traceability system is analyzed and compared with respect to traditional ones. It can have a significant impact on the RFID scientific community. One of the authors (E. Sanchez) was a PhD student of B. Montrucchio.

Bartolomeo Montrucchio worked in particular to the definition of the framework.

(55) Montrucchio, B., Giusto, E., Ghazi Vakili, M., Quer, S., Ferrero, R., Fornaro, C., "A Densely-Deployed, High Sampling Rate, Open-Source Air Pollution Monitoring WSN", 2020, IEEE Transactions on Vehicular Technology, ISSN: 0018:9545, doi: 10.1109/TVT.202.3035554, IEEE, USA.

The paper presents a detailed study of a PM10 monitoring system, both for static and mobile applications. Calibration methods are accurately tested and compared. Proposed methodology appears to be easy to calibrate and with a high sampling rate. Data have been acquired also thanks to a collaboration with ARPA Piemonte, who has allowed to put sensors under test in one of their stations (Torino Rubino).

The paper is associated to the open source IEEE DataPort database (157 in the list of publications), in which all required hardware and software is put freely available for replicating the setup.

Bartolomeo Montrucchio worked on several aspects, both theoretical and experimental.

Here are reported other selected publications. Numbers are, as before, referring to the full list, put at the end of this document. The publications have been chosen along the whole period of research activity:

(56) Hemmatpour, M., Montrucchio, B., Rebaudengo, M., Sadoghi, M., "Analyzing In-Memory NoSQL Landscape", 2020, IEEE Transactions on Knowledge and Data Engineering, ISSN: 1041:4347, doi: 10.1109/TKDE.2020.3002908, IEEE, USA.

The paper presents the fundamental design principles for exploiting RDMA's in modern NoSQL systems, analyzes state-of-the-art of the RDMA-based in-memory NoSQL systems and compares traditional in-memory NoSQL with their RDMA-enabled counterparts.

Bartolomeo Montrucchio worked in particular on the comparison part.

(54) Scanzio, S., Ghazi Vakiki, M., Cena, G., Demartini, C.G., Montrucchio, B., Valenzano, A., Zunino, C., "Wireless Sensor Networks and TSCH: a compromise between Reliability, Power Consumption and Latency", 2020, IEEE Access, ISSN: 2169-3536, doi: 10.1109/ACCESS.2020.3022434, Vol 8, pp.167042-167058, IEEE, USA.

The paper presents a mathematical model able to characterize both the network and the surrounding

environment for WSN devices starting from measurements performed on a real testbed. Reliability, power consumption and latency are seen in trade-off. Measurement campaign has been done on OpenMote B devices and the model has been checked against a real 6TiSCH implementation. The paper is associated to the open source IEEE DataPort database (155 in the list of publications) Bartolomeo Montrucchio worked in the experimental phase.

(39) (17 citations, always from [Scopus]) Gandino Filippo, Ferrero Renato, Montrucchio Bartolomeo, Rebaudengo Maurizio, "Fast Hierarchical Key Management Scheme with Transitory Master Key for Wireless Sensor Networks", 2016, IEEE INTERNET OF THINGS JOURNAL, vol. 3, p. 1334-1345, ISSN: 2327-4662, doi: 10.1109/JIOT.2016.2599641, United States.

In the paper a new key negotiation routine, integrated with a well-known key computation mechanism based on a transitory master secret, is proposed. The results are important for the wireless sensor networks security. Bartolomeo Montrucchio contributed mainly to the definition of the algorithm.

(38) (4 citations) Velasco A. D., Montrucchio B., Rebaudengo M., "KITO tool: A fault injection environment in Linux kernel data structures", 2016, MICROELECTRONICS RELIABILITY, vol. 60, p. 153-162, ISSN: 0026-2714, doi: 10.1016/j.microrel.2016.02.011, United States.

The paper presents a fault injection tool for testing experimentally the effects of injecting faults directly in the Operating System (Linux), in particular in the parts of the memory related to synchronization management. The results are important for understanding if it is possible to fix errors in systems used in dangerous environments. Bartolomeo Montrucchio contributed mainly in the definition of the test cases and of the strategy used.

(37) (4 citations) Bartolomeo Montrucchio, Renato Ferrero, "Toner savings based on quasi-random sequences and a perceptual study for green printing", 2016, IEEE TRANSACTIONS ON IMAGE PROCESSING, vol. 25, p. 2635-2646, ISSN: 1057-7149, doi: 10.1109/TIP.2016.2552641, United States.

The paper deals with a new technique for saving toner in the printing process, introducing a new quasi-random sequence-based algorithm for reducing the number of dots. The impact can be very important from the point of view of the green computing. Bartolomeo Montrucchio contributed in the definition of the algorithm and in the definition of the experimental tests.

(36) (23 citations) Umberto Lucia, Giuseppe Grazzini, Bartolomeo Montrucchio, Giulia Grisolia, Romano Borchiellini, Gianpiero Gervino, Carlotta Castagnoli, Antonio Ponzetto, Francesca Silvagno, "Constructal thermodynamics combined with infrared experiments to evaluate temperature differences in cells", 2015, SCIENTIFIC REPORTS, vol. 5, p. 1-10, ISSN: 2045-2322, doi: 10.1038/srep11587, United Kingdom.

The paper uses infrared thermography to show that there are differences in energy flows between normal and immortalized cells when the cells are exposed to environmental stimulation. The results are potentially very important, since it can be possible to influence dangerous cells. Bartolomeo Montrucchio designed the infrared acquisition method and the infrared experimental set up and carried out the experiments.

(35) (4 citations) Montrucchio Bartolomeo, Celozzi Cesare, Cerutti Paolo, "Thresholds of Vision of the Human Visual System: Visual Adaptation for Monocular and Binocular Vision", 2015, IEEE TRANSACTIONS ON HUMAN-MACHINE SYSTEMS, vol. 45, p. 739-749, ISSN: 2168-2291, doi: 10.1109/THMS.2015.2469155, United States.

The paper extends Blackwell's results in terms of studying thresholds of vision of the human visual system. Experimental tests, designed by Bartolomeo Montrucchio, can be very useful for the characterization of the human visual system (like in the past the experiments of Blackwell).

(34) (45 citations [Scopus], Impact Factor 6,76). F. Gandino, B. Montrucchio, M. Rebaudengo, "Key

Management for Static Wireless Sensor Networks With Node Adding”, 2014, IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol. 10 n. 2, pp. 1133-1143. - ISSN 1551-3203, DOI:10.1109/TII.2013.2288063, United States.

This paper has been chosen since it represents a good example of the results obtained in the field of wireless sensor network. It has a good number of citations (only 2 self-citations).

It presents an innovative key management scheme called random seed distribution with transitory master key. It also provides a high security level.

Bartolomeo Montrucchio's contribution, in particular, was mainly related to the algorithm design.

(33) (7 citations) R. Ferrero, F. Gandino, B. Montrucchio, and M. Rebaudengo, “Improving colorwave with the probabilistic approach for reader-to-reader anti-collision tdma protocols,” WIRELESS NETWORKS, 20 (3) pp. 397 – 409, 2014, DOI 10.1007/s11276-013-0611-z, United States.

In the paper, given RFID systems, the probabilistic method is implemented in the collision resolution routine of Colorwave and its effects are analyzed. It can have a strong impact for future high reader density environments. Bartolomeo Montrucchio has worked in particular on the architectural aspects of the protocol.

(31) (32 citations) F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, “Dcns: an adaptable high throughput rfid reader- to-reader anti-collision protocol,” IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, vol. 24, no. 5, pp. 893–905, 2013, DOI: 10.1109/TPDS.2012.208, United States.

The paper investigates new high throughput solutions for static RFID networks without additional requirements. The overall impact in the scientific community is in particular suitable for low-cost applications with a priority not uniformly distributed among readers. Bartolomeo Montrucchio contributed in the definition of the protocol.

(30) (5 citations) O. Khan, C. S. Ragusa, F. Khan, and B. Montrucchio, “A mutual demagnetizing tensor for n-body magnetic field modeling,” IEEE TRANSACTIONS ON MAGNETICS, vol. 49, no. 7, pp. 3179–3182, 2013, DOI 10.1109/TMAG.2013.2245869, United States.

The paper is on parallel computing (GPU in particular), involving two past PhD students, now Assistant and Associate Professors. The impact can be significant, since FFT is used in a large number of applications. The paper introduces a mutual demagnetizing tensor for calculating the demagnetizing field in multiple magnetic bodies. Bartolomeo Montrucchio has worked on the GPU parallelization.

(27) (28 citations) R. Ferrero, F. Gandino, B. Montrucchio, and M. Rebaudengo, “A fair and high throughput reader-to-reader anticollision protocol in dense rfid networks,” IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol. 8, no. 3, pp. 697–706, 2012, DOI 10.1109/TII.2011.2176742, United States.

The paper proposes two approaches to increase the fairness and ensure a high throughput for each reader in reader-to-reader anticollision protocols. The impact is significant, given that supply chain is a typical scenario of exploiting Radio Frequency Identification (RFID) technology. Bartolomeo Montrucchio worked on the experimental simulations.

(25) (50 citations) F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, “Probabilistic dcs: An rfid reader-to-reader anti- collision protocol,” JOURNAL OF NETWORK AND COMPUTER APPLICATIONS, vol. 34, no. 3, pp. 821– 832, 2011, DOI: 10.1016/j.jnca.2010.04.007, Netherlands.

The paper presents the probabilistic DCS (PDCS) reader-to-reader anti-collision protocol, which employs probabilistic collision resolution. It can have a good impact in the community of RFID. Bartolomeo Montrucchio worked in particular on the introduction of probability into DCS.

(18) (44 citations [Scopus], Impact Factor 1,69) F. Lamberti, B. Montrucchio and A. Sanna, “CMBFHE: A Novel Contrast Enhancement Technique based on Cascade Multistep Binomial Filtering Histogram Equalization”, IEEE TRANSACTIONS ON CONSUMER ELECTRONICS. vol. 52-3, 2006, pp. 966-974 ISSN: 0098-3063, DOI: 10.1109/TCE.2006.1706495, United States.

Also this paper has been selected since for citations (it has no self-citations) and spreading it can represent a significant result. Moreover it has received most of its citations in the very last years; this means that it still

has the capability of being a reference point.

The paper presents a high performance contrast enhancement algorithm using cascaded multistep binomial filtering. Bartolomeo Montrucchio, in particular, has contributed to propose the new algorithm and the use of binomial filters.

(7) (8 citations) B. Montrucchio, P. Montuschi, A. Sanna and A. Sparavigna, "Visualizing Vector Fields: the Thick Oriented Stream-Line Algorithm (TOSL)", Computers & Graphics, Vol. 25, No. 5, pp. 847-855, 2001, ISSN 0097-8493, Elsevier, DOI: 10.1016/S0097-8493(01)00126-1, The Netherlands.

The paper presents the Thick Oriented Stream-Line (TOSL) algorithm, which can show direction, orientation and local flow speed even for dense vector fields, by simulating the convolution process. It can be important in the field of scientific visualization. Bartolomeo Montrucchio worked on the algorithm's design.

(5) (4 citations) A. Sanna, B. Montrucchio and A. Sparavigna, "A Parallel Algorithm of Texture Analysis for Liquid Crystal Investigation", Pattern Recognition Letters, Vol. 20, No. 2, pp. 183-190, 1999, ISSN 0167-8655, Elsevier, The Netherlands.

The paper is both on parallel computing and scientific visualization. It uses a hypercube based special purpose machine and can have an impact on the parallel computing scientific community. Bartolomeo Montrucchio worked in particular on the parallelization phase on the nCube 2 architecture.

(3) (48 citations) B. Montrucchio, A. Sparavigna, and A. Strigazzi, "A new image processing method for enhancing the detection sensitivity of smooth transitions in liquid crystals", Liquid Crystals, Vol. 24, No. 6, pp. 841-852, 1998, ISSN 0267-8292, Taylor & Francis, Abingdon Oxfordshire (United Kingdom).

The paper presents a new image processing method to enhance the detection sensitivity of smooth transitions in liquid crystals. Its impact has been very good, with several citations and several other papers. Bartolomeo Montrucchio worked on the design of the algorithm.

Indicators related to overall scientific production

Total number and number in the ten most recent years of articles in published journals included in the main international databases	Total number and number in the fifteen most recent years of citations to his/her own overall scientific production	The overall Hirsch index (H-index)	Database source
Total number = 43 (40 Article and 3 Review) In ten most recent years = 27	Total number = 900 Total number (excluding self citations of B. Montrucchio) = 813 In 15 most recent years = 869 In 15 most recent years (excluding self citations of B. Montrucchio) = 787	H-index = 17 Excluding self citations of B. Montrucchio H-index= 15	SCOPUS (10 Dec 2020)

2. Coordination of research groups and projects and research development in the "third mission"

Bartolomeo Montrucchio is a member of the GRAINS - GRaphics and INtelligent Systems group (formerly Computer Networks and Architectures Group) at the Politecnico di Torino, coordinated and supervised by Prof. Paolo Montuschi and Prof. Claudio Demartini. For the ubiquitous computing research field, other than

in GRAINS group, he works also in the Ubiquitous Computing group, coordinated by Prof. Maurizio Rebaudengo.

Starting from the end of 2017, he has also started coordinating a research group called Quantum Computing (QC), in which, in addition to him, there are two PhD Students, Edoardo Giusto and Mohammad Ghazi Vakili, who work on QC activities for 50% of their time. Edoardo Giusto and Mohammad Ghazi Vakili have won, in summer 2019, a prize in an IBM Hackaton on QC. Since the QC activity is quite new (and fascinating) the first paper on it is arrived in 2020 only (number 53 in the list of publications); the two PhD students have followed specific on-line PhD courses on QC from Massachusetts Institute of Technology (MIT). QC activity has also been concentrated on a research contract with General Motors Global Propulsion Systems (Torino) in 2019 (now the collaboration is with Punch Torino, who acquired GM center of Torino) and on a research contract with TIM (Telecom Italia Mobile) started in 2019 (it is still going on). Moreover, Bartolomeo Montrucchio has proposed to the PhD program of Computer and Control Engineering in Politecnico di Torino to be the lecturer of a III level course on Quantum Computing; the course has been done in May 2019 and in May 2020. Bartolomeo Montrucchio is also become academic supervisor of Andrea Marchesin (co-supervisor Mariagrazia Graziano), whose PhD project is on Quantum Computing (PhD is fully paid from TIM). Quantum computing activity is also done in collaboration with Fondazione Links (already Istituto Mario Boella), in order to spread this new research also on the territory, thanks to the connections with industries available in Fondazione Links.

Bartolomeo Montrucchio has been the academic supervisor for the following PhD students (with whom there are several publications):

- Erwing Ricardo Sanchez (XXII cycle -completed- thesis entitled "Sistemi Informatici per l'ubiquitous computing");
- Fiaz-Gul Khan (XXV cycle -completed- thesis entitled "General purpose computation for GPUs using OpenCL/CUDA and Infiniband"); Fiaz Khan is now Assistant Professor at COMSATS University, Abbottabad Campus, Pakistan;
- Omar Usman Khan (XXV cycle -completed- thesis entitled "High performance computing using GPU"); Omar Khan is now Associate Professor and Head of the CS department at FAST-NUCES Peshawar, Pakistan;
- Bilal Jan (XXVII cycle -completed- thesis entitled "Parallel and distributed programming for data/computation intensive applications");
- Masoud Hemmatpour (XXXI cycle -completed- thesis entitled "High performance computing using Infiniband-based clusters");
- Sorath Asnani (XXXIV cycle), title "Image processing for machine vision applications";
- Gustavo Adolfo Ramirez Espinosa (XXXV cycle), title "Multivariate analysis and augmented reality visualization in research and industrial environments"
- Antonio Costantino Marceddu (XXXVI cycle), title "Multivariate analysis in research and industrial environments"
- Andrea Marchesin (XXXVI cycle), title "Analysis and design of quantum algorithms and technologies for engineering applications"; he is in the DET (Department of Electronics and Telecommunications) of Politecnico di Torino and as co-tutor there is MariaGrazia Graziano; PhD program is fully funded by Telecom (TIM)

He has been the supervisor for 5 Research Assistants (Assegno di Ricerca); one of them of senior level (Post-doc).

Fundamental and industrial (applied) research has been done also with reference to several research projects, european and national, as depicted in the following.

Bartolomeo Montrucchio has participated as component of research unit, to many (also european) projects (within the GRAINS research group): OPLON (OPportunities for active and healthy LONGevity), "IDEM (Internet Data Environment Monitoring)", "NAMATECH: Nano -materials and -technologies for intelligent monitoring of safety, quality and traceability in confectionery products", "SAFE FOOD CONTROL: Sviluppo di Sistemi e Tecnologie Innovative per la produzione, conservazione, trasformazione e valorizzazione dell'ortofrutticola piemontese di qualità", "Piattaforma Tecnologica Innovativa per l'Internet of Things", "Centro di competenza sui Wireless Microsensor Systems", "Wireless sensors network for energy management in educational buildings (WiFi4Energy)", "Tecniche di Tracciabilità alimentare per la qualità basate su tecnologia RFID", "HELEN tHe European LEarning Network", "IVShopping: interfaccia per un negozio virtuale interattivo", "Strumenti e tecniche per la realizzazione di negozi virtuali distribuiti", "Elaborazione ad alte prestazioni per applicazioni con requisiti di elevata intensità computazionale e vincoli di tempo reale", "Studio e sviluppo di un sistema per il controllo e il monitoraggio in tempo reale del territorio per la prevenzione degli incendi", "High quality secure and seamless document communication system" (HIPSCAN IST 2000-29370), CERCOM (Centro di Eccellenza per le Radio Comunicazioni Multimediali).

For the scientific collaboration with institutions and associations, publication 55 (in the full list of publications) has been obtained also by means of an agreement with ARPA Piemonte, who allowed putting the devices under test in one of their stations (Torino Rubino). One of the purposes of the experimental activity was to better understand the distribution of the air pollution (particulate matter, PM10), in order to improve the quality of the air. Collaboration with ARPA Piemonte is still going on, since the purpose is to continue collecting data that can complement official ARPA data.

The results of the study have been presented to the "Commissione ambiente del Comune di Torino", on invitation of the chief of the Commissione Ambiente, Federico Mensio.

For the scientific responsibility (Principal Investigator) of competitive National and International research projects, awarded through a peer-review process, this is the list:

- Co-responsible (with Prof. Andrea Sanna) of the project "Sviluppo di un sistema di calcolo ad alte prestazioni mediante cluster di Personal Computer", project Giovani Ricercatori (Young Researchers) Bando del Politecnico di Torino (10 millions 744 thousands italian lire). From 01-01-1999 to 31-12-1999
- Principal investigator of the european project (code of Politecnico 02_RE104MB01) "V.I.M. A Virtual environment for experiencing Mathematics", (138950 euro). From 01-10-2004 to 30-09-2005(Attachment 1)
- Responsible for the local unit "Politecnico di Torino" of the european project (code of Politecnico 02_RE106MB01) "Valorisation of an Experiment-based Training system through a TRansnational Educational Network Development (VET-TREND)", Ref. RO06BFNT175014 (Leonardo da Vinci); coordinating unit was from University of Brasov (Romania) (2006-2008 18 mila 831 euro). From 01-06-2006 to 01-06-2008
- Principal investigator of the project from Fondazione Cassa di Risparmio di Cuneo (code of Politecnico 02_RIP07MB01) "Sistema di tracciabilità alimentare basato su tecnologie ICT a supporto di un marchio collettivo". The project required activating a Research assistant position for two years (started in October 2007). The managed budget is of 37416 euro. From 01-10-2007 to 01-10-2009
- Responsible for two separate units of the regional project (funded from Regione Piemonte) (code of Politecnico 02_RIJ08MB01) "Next MIRS progetto per la produzione integrata di pneumatici per Alte Prestazioni". It is involved also Pirelli S.p.A.. B. Montrucchio managed a total of about 300000 euro, partially with a special project (111000 euro) with Pirelli S.p.A. The project required activating three Research assistant positions for two years. Principal investigators of the project were Ing. Gianni Mancini (Pirelli S.p.A.) and Prof. Riccardo Sisto (Politecnico di Torino). From 01-05-2008 al 01-01-2011.

In particular for the european projects Bartolomeo Montrucchio was:

- principal investigator for VIM project;
- local unit responsible for VETTREND project.

For the scientific responsibility of National and International research projects, ruled through partnership agreements with companies and/or public private bodies, which are leaders in their own sector, this is the list:

- Project (internal code Politecnico 195/2012) with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 30000 euro. Role: principal investigator. From 17-10-2011 to 16-04-2012
- Project (internal code Politecnico 1374/2012) with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 30000 euro. Role: principal investigator. From 17-04-2012 to 16-04-2013
- Project (internal code Politecnico 699/2014) with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 25000 euro. Role: principal investigator. From 01-01-2014 to 01-01-2015
- Project (internal code Politecnico 485/2014) with SPEA S.p.A. on using of Computer Vision for industrial purposes. Value of the project 8000 euro. Role: principal investigator. From 30-06-2014 to 30-09-2014
- Project (internal code Politecnico 871/2015) with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 20000 euro. Role: principal investigator. From 09-10-2015 to 31-12-2015
- Project (internal code Politecnico 437/2016) with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 40000 euro. Role: principal investigator. From 02-03-2016 to 31-12-2016
- Project (internal code Politecnico 166/2017) with Magneti Marelli Sistemi Sospensioni S.p.A. on using of Computer Vision for industrial purposes. Value of the project 40000 euro. Role: principal investigator. From 07-03-2017 up to now
- Project with Pirelli Tyre S.p.A. on using of Computer Vision for industrial purposes. Value of the project 10000 euro. Role: principal investigator. From 01-06-2017 up to now
- Project with General Motors Global Propulsion Systems (Torino), for Quantum computing in cars. Role: principal investigator. From 01-09-2018 to 31-12-2018 (one year 20000 euro)
- Project with TIM (Telecom Italia Mobile), for Quantum Computing. Role: principal investigator. From 1-1-2019 to 31-12-2019 (one year, 15000 euro)
- Project with TIM (Telecom Italia Mobile), for Quantum Computing. Role: principal investigator. From 1-1-2020 to 31-12-2020 (one year, 15000 euro)
- Project with SPEA Automatic Test Equipment, for designing new instruments for optical measurements. Role: research unit responsible. From 10-9-2020 to 10-9-2021 (one year, 30000 euro).

In 2017 Bartolomeo Montrucchio obtained the annual individual funding for basic research activities (FFBR 2017), provided by the Italian Ministry of Education, University and Research.

For the outcomes obtained in the field of technology transfer, in terms of participation in start-ups and spin-offs, development, use and commercialization of patents/licenses:

- Bartolomeo Montrucchio has worked mainly with Pirelli company, specifically on technology transfer. In fact the patents listed with numbers from 57 to 63 (in the full list of publications) are on the design of specific characteristics of a special purpose machine that is in the design phase in Pirelli S.p.A. In Attachment 2 there is a letter from Ing. Gianni Mancini (Pirelli S.p.A.) certifying the work done.

- Other than the patents with Pirelli S.p.A., there are other three submitted patents (not granted yet), coming from inter-department research in Politecnico di Torino:
 1. Development of a system called Photochionometer, used for measuring the snow density in critical situations: Method for measuring density of snow for e.g. pure and applied snow research purpose in modern weather station, involves measuring light attenuation between photoemitters and photodetectors to determine density of snow Patent Number: WO2012164493-A1; IT1405938-B; EP2715312-A1 Patent Assignee: POLITECNICO DI TORINO Inventor(s): MONTRUCCHIO B; SUOZZI E; NOCERINO G..
The project related to the instrument was inserted in the best 10 ideas of the Start Cup at the presentation of ideas of Start Cup 2011 done in Politecnico di Torino on 30 June 2011 (Attachment 3)
 2. A patent for a machine able to reduce the grow of cancer cells in particular conditions by means of low intensity magnetic fields. This work has been done in collaboration with several other departments of Politecnico di Torino and of Università di Torino (Città della Salute), in particular with Prof. Umberto Lucia (see publication number 36); the patent is now a PCT
 3. A patent, for a "Sistema e metodo di stima di motilità di un'articolazione oggetto di impianto protesico" with other departments and with Università di Torino (Città della Salute) for computer-aided surgery of the femur (main investigator is Prof. Enrico Vezzetti)

3. National and international reputation and professional activity for the scientific community

Bartolomeo Montrucchio is currently serving as Associate Editor (starting from 2019) for IEEE Transactions on Vehicular Technology <http://www.it.is.tohoku.ac.jp/~tvt/vtjournal/editors.html>.

Bartolomeo Montrucchio has been Guest Editor of a special issue of the journal Sensors, with title "Sensor fusion and Visualization in IoT Applications for Environmental Monitoring"
https://www.mdpi.com/journal/sensors/special_issues/sensor_fusion_and_visualization.

Bartolomeo Montrucchio served as Lead Guest Editor for a special issue of the journal Mobile Information Systems, with title "Mobility for the Internet of Things" <https://www.hindawi.com/journals/misy/si/820742> ; see also number (50) in the full list of the publications.

Bartolomeo Montrucchio has been "Adjunct Professor" with Dept. of Electrical and Computer Engineering of University of Illinois at Chicago (UIC) for the double degree project "TOP-UIC" between Politecnico di Torino and University of Illinois at Chicago; he has been lecturer for a part (20 hours) of the course of Special Topics during the second part of academic year 2007/2008.

He has been supervisor of a joint Master Thesis with Dept. of Electrical and Computer Engineering of University of Illinois at Chicago (UIC) for the double degree project "TOP-UIC" between Politecnico di Torino and University of Illinois for the candidate Vittorio Giovara (May 2009, Zhu-Montrucchio-Khokar)

He won the first prize in "Student paper competition" in "EURASIP BIOSIGNAL 2002" for the paper Lamberti F., Montrucchio B., Demartini C., "A wireless-based architecture for medical teleconsulting", 16th EURASIP Conference, pp. 454-456, 2002 (ISBN 8021421207). June 2002. Number (86) in the full list of publications.

Bartolomeo Montrucchio is coauthor of three databases, open source and freely available on IEEE DataPort, numbers from 155 to 157 in the full list of publications.

Bartolomeo Montrucchio has been a component of the IEEE Italy entrepreneurship committee (chair Prof. Vincenzo Piuri).

Bartolomeo Montrucchio has participated to the scientific committee of several International Conferences:

- EURASIP RFID 2012 Conference, participant of Organizing committee and Technical Program Committee / Italy

- EURASIP RFID 2015 Conference, participant of Technical Program Committee / Germany
- EURASIP RFID 2018 Conference, participant of Technical Program Committee / Czech Republic
- ENICS 2008 Technical Program Committee/ Spain
- CENICS 2009 Technical Program Committee/ Malta
- CENICS 2010 Technical Program Committee/ Italy
- CENICS 2011 Technical Program Committee/ France
- CENICS 2012 Technical Program Committee/ Italy
- CENICS 2013 Technical Program Committee/ Spain
- CENICS 2014 Technical Program Committee/ Portugal
- CENICS 2015 Technical Program Committee/ Italy
- CENICS 2016 Technical Program Committee/ France
- CENICS 2017 Technical Program Committee/ Italy
- CENICS 2018 Technical Program Committee and Steering Committee/ Italy
- CENICS 2019 Technical Program Committee and Steering Committee/ France
- CENICS 2020 Technical Program Committee and Steering Committee/ Spain
- VISAPP 2014 Program Committee/ Portugal
- VISAPP 2015 Program Committee/ Germany
- VISAPP 2016 Program Committee/ Italy
- VISAPP 2017 Program Committee/ Portugal
- VISAPP 2018 Program Committee/ Portugal
- VISAPP 2019 Program Committee/ Czech Republic
- VISAPP 2020 Program Committee/ Malta
- ARITH 2021 Program Committee / Torino
- Didamatica 2011, Politecnico di Torino, Comitato dei Revisori e Segreteria Tecnica

Bartolomeo Montrucchio has been the Exhibits & Demos Chair for the conference INTETAIN 2015

Bartolomeo Montrucchio has managed, from 2006 up to 2012, the annual presentation into the European researchers' night, hold in Turin each year in September (hold by means of european funds); he has presented the activities of the Dipartimento di Automatica e Informatica, by means of exhibitions, hand-crafted items and prototypes.

He is Member of IEEE (from 2002), ACM (from 2015) and Eurographics (from 2002).

Bartolomeo Montrucchio has been reviewer for several journals and conferences. Here is a partial list:

- IEEE Transactions on Computers

- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Image Processing
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Transactions on Communications
- IET Image Processing
- IET Wireless Sensor Systems
- IET Computers & Digital Techniques
- Computer Graphics Forum
- Pattern Recognition Letters
- Parallel Computing
- Electronics Letters
- IETE Technical Review
- Computer Methods and Programs in Biomedicine
- Physica A
- Journal of Communications and Networks
- Journal of Aeronautics & Aerospace Engineering
- VISAPP
- WSCG

4. Teaching activity

Bartolomeo Montrucchio has been involved in several courses of Bachelor (I level), Master of Science (II level), PhD level (III level) and specializing courses (the last in particular with SIS Piemonte (Scuola Interateneo di Specializzazione Piemonte)) since 1999/2000. Didactics has been done mainly in Italian and partly in English, with a number of students up to about 300.

In order to testify the commitment to research and experimentation of innovative teaching methods, it has to be underlined that SIS Piemonte (now CIFIS, of which Bartolomeo Montrucchio is Deputy Director since 2012, see Section 5) had the purpose to give a specific training to the teachers of high schools, giving them a degree (abilitazione) to start teaching in the high school; therefore courses in SIS were aimed to people interested to teach, who already passed a first competitive examination after the standard degree (M.Sc., laurea specialistica). SIS Piemonte was a recipient of many innovative teaching courses, also in Computer Science (B.Montrucchio was/is the responsible of the Computer Science address (classe di concorso A-41 Scienze e tecnologie informatiche, in the past A042)). Final thesis of the students were exactly on how to teach in an innovative way arguments linked to "Classe di concorso".

Bartolomeo Montrucchio started working in SIS Piemonte in 2003 and became its Deputy Director in 2012.

In May 2019 Bartolomeo Montrucchio has prepared, for the course of Informatica (first year), a set of YouTube videos in order to zeroing the starting level of the students of the first year. In fact, in about 50% of new students there is no previous exposition to Computer Science basis, with difficulties in the first year Informatica course. Videos can be seen in the YouTube playlist (there are about ten hours of videos, globally):

<https://www.youtube.com/playlist?list=PLB4VqtTRoRFqBAMb2FqRPH9qi35fjH6EF>

Bartolomeo Montrucchio, starting from 2019, has been appointed as "membro esperto TIL Informatica lauree professionalizzanti" and from 2020 is a component of the committee for creation of TIL in Politecnico di Torino (TIL, Test In Laib are the entry test for students candidates at the first year in Politecnico di Torino).

Bartolomeo Montrucchio is currently the lecturer or teaching assistant for the following courses:

- lecturer (titolare) for Informatica (Computer Sciences, I year, about 230 students, 8 credits, 80 hours, in Italian), Image Processing and Computer Vision (Ing. Informatica e del Cinema, I and II year II level, about 50 students, 6 credits, 60 hours, in Italian), System Programming (I year, II level, Communications And Computer Networks Engineering, about 70 students, 6 credits, 60 hours, in English), and Quantum Computing (III level, from 2018/2019, about 30 students coming from different PhD programs, 4 credits, 20 hours, in English)
- teaching assistant (in part) (esercitazioni) for the course of Computer Architectures (I year, II level, Prof. Paolo Montuschi, in English), Parallel and Distributed Computing (III level, from 2008/2009, about 40 students coming from different PhD programs, 5 credits, 25 hours, in English, Prof. Alessandro Savino), Introduzione all'informazione e calcolo quantistico (II year, I level, all degrees, about 100 students, 6 credits, 60 hours, in Italian, Prof. Anna Carbone), Soluzioni di grafica 3D in applicazioni biometriche (II year, I level, all degrees, about 100 students, 6 credits, 60 hours, in Italian, Prof. Andrea Sanna)
- in the past he has also been a lecturer for Operating System (Sistemi Operativi) (from 2006/2007 for some years), for Standards and Formats (unofficial translation of Gestione dei formati e standard) (from 2007 to 2008), for courses in teledidactics (from 2003/2004), for several specializing courses for the SIS school and for second level Master courses (in Vercelli from 2001/2002); he has also been a teaching assistant (esercitatore) for several courses, in particular Operating Systems and Computer Architectures, starting from 1999/2000; some courses have been done in English (from 2008/2009).

Considering only courses of I, II and III level and specializing postgraduate courses at SIS and at second level Master, this is a summary of all teaching activities:

A.Year	Lecturer	Teaching assistant	Other role	Other courses	
1999/2000			4		4
2000/2001			3		3
2001/2002			4	1	5
2002/2003		3		1	4
2003/2004	2	3	1	2	8
2004/2005	2	3	1	1	7
2005/2006	2	3	2	2	9
2006/2007	3	3	2	1	9
2007/2008	5	3	2	2	12
2008/2009	3	3	2		8
2009/2010	3	2	2		7
2010/2011	2	2	2		6

2011/2012	3	2	1		6
2012/2013	3	2			5
2013/2014	3	2	1		6
2014/2015	3	1	1		5
2015/2016	4	1			5
2016/2017	4	1			5
2017/2018	4	1			5
2018/2019	4	2			6
2019/2020	4	4			8
2020/2021	4	4			8
	58	45	28	10	

He has been the supervisor for more than 60 thesis of Master of Science and for several others at the Bachelor level. He participated to three projects of ASP (Alta Scuola Politecnica, founded in 2004 from Politecnico di Milano and Politecnico di Torino) starting from 2007.

The complete list of Bartolomeo Montrucchio's teaching activities is in the following:

Academic year 1999/2000

- Support to teaching assistance of the course Fondamenti di Informatica (Torino, Corso di Laurea in Ing. Aerospaziale e Nucleare).
- Tutor of the course (as cultore della materia) of Sistemi Informativi Aziendali Teledidattico (Torino, Corso di DU in Ing. Logistica e della Produzione).
- Tutor of the course (as cultore della materia) of Basi di Dati Teledidattico (Alessandria, Corso di DU in Ing. Informatica).
- During the academic year he has hold some seminars on Computer Graphics and Multimedia for the course of Sistemi di Elaborazione (Vercelli, Corso di Laurea in Ing. Elettronica).

Academic year 2000/2001

- Support to teaching assistance of the course Fondamenti di Informatica (Torino, Corso di Laurea in Ing. Aerospaziale e Nucleare).
- Tutor of the course (as cultore della materia) of Sistemi Informativi Aziendali Teledidattico (Torino, Corso di DU in Ing. Logistica e della Produzione).
- Tutor of the course (as cultore della materia) of Basi di Dati Teledidattico (Alessandria, Corso di DU in Ing. Informatica).

Academic year 2001/2002

- Tutor of the course (as cultore della materia) of Sistemi Informativi Aziendali Teledidattico (Torino, Corso di DU in Ing. Logistica e della Produzione).
- Support to teaching assistance of the course of Informatica Grafica (as cultore della materia) (Torino, Architettura, Corso di DU in Tecniche e Arti della Stampa).
- Support to teaching assistance of the course of Sistemi di Elaborazione (Sede di Vercelli, Corso di Laurea in Ing. Elettronica).
- Support to teaching assistance of the course of Calcolatori Elettronici (Sede di Torino, Corso di Laurea in Ing. Elettronica).
- Lecturer for the courses of "Sistema Operativo" and "Sicurezza Reti" in "Master in gestione dei lavori pubblici" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2002/2003

- Teaching assistant of Reti Telematiche e Reti di Calcolatori I (Vercelli, II faculty, Corsi di Ingegneria Elettronica e Ingegneria Informatica).
- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant for the course of Sistemi a microprocessori (Torino, Corso di Laurea in Ing.

Informatica).

- Lecturer for the courses of "Sistema Operativo" and "Sicurezza Reti" in "Master in gestione dei lavori pubblici" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2003/2004

- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant for the course of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica).
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer for the course of "Introduzione alle Reti di Calcolatori" in "Master in Comunicazione Aziendale su Internet" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).
- Lecturer for the courses of "Sistema Operativo" and "Sicurezza Reti" in "Master in gestione dei lavori pubblici" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2004/2005

- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant for the course of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica).
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer for the courses of "Sistema Operativo" and "Sicurezza Reti" in "Master in gestione dei lavori pubblici" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2005/2006

- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant for the course of Calcolatori Elettronici (Torino, Corso di Laurea in Ing. Informatica).
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Tutor for the teledidactic course of Architettura dei Sistemi Operativi in Alessandria (Politecnico di Torino). Lessons are partially in videoconference and partially in presence (in Alessandria).
- Co-lecturer (together with Andrea Sanna) for the course of Sistemi Operativi (for real-time) for the Master in Sistemi Embedded of Politecnico di Torino.
- Lecturer for the course of "Infrastrutture e servizi di rete" in "Master in Comunicazione Aziendale su Internet" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2006/2007

- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica, degree in English). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer of the course of Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. del Cinema).
- During the academic year he has hold some seminars of Tecnica della Fotografia (Torino, IV year, Corso di Laurea in Ing. del Cinema).
- Tutor for the teledidactic course of Architettura dei Sistemi Operativi in Alessandria (Politecnico di Torino). Lessons are partially in videoconference and partially in presence (in Alessandria).

Academic year 2007/2008

- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica, degree in English). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer of the course of Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. del Cinema).
- Tutor for the teledidactic course of Architettura dei Sistemi Operativi in Alessandria (Politecnico di Torino). Lessons are partially in videoconference and partially in presence (in Alessandria).
- Lecturer of the course of Gestione di formati e standard (Torino, V year, Corso di laurea specialistica in Design del prodotto ecocompatibile, I Facoltà di Architettura, 2 credits)
- Lecturer for a part (20 hours) of the course of Special Topics (Torino, IV year, 4 anno, Ing. delle Telecomunicazioni e Informatica (in English) joint with Master of Science UIC -University of Illinois Chicago-). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori in "Master di I livello in Comunicazione e Marketing Multimediale" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).
- Lecturer of the brief course (4 hours) of Informatica in "Corso in tecniche di Recupero e Conservazione degli edifici storici" managed by UN.I.VER consortium, II faculty of Politecnico di Torino (Vercelli).

Academic year 2008/2009

- Lecturer of the course of Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. del Cinema).
- Lecturer of the course of Gestione di formati e standard (Torino, V year, Corso di laurea specialistica in Design del prodotto ecocompatibile, I Facoltà di Architettura, 2 credits)
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer for the teledidactic course of Architettura dei Sistemi Operativi in Domodossola (Politecnico di Torino). Lessons are in videoconference and partially in presence.
- Teaching assistant of Sistemi Operativi (Torino, III year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica, degree in English). Lessons are in English.

Academic year 2009/2010

- Lecturer of the course of Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. del Cinema).
- Lecturer of the course of Sistemi Operativi (Verres, III year, Corso di Laurea in Ingegneria Informatica).
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer for the teledidactic course of Architettura dei Sistemi Operativi in Domodossola (Politecnico di Torino). Lessons are in videoconference and partially in presence.
- Teaching assistant of Progetto di Sistemi Operativi (Torino, IV year, Corso di Laurea in Ing. Informatica).
- Teaching assistant of Sistemi a microprocessori (Torino, Corso di Laurea in Ing. Informatica, degree in English). Lessons are in English.

Academic year 2010/2011

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).

- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.
- Lecturer for the teledidactic course of Architettura dei Sistemi Operativi in Domodossola (Politecnico di Torino). Lessons are in videoconference and partially in presence.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.
- Teaching assistant of Operating Systems and System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering). Lessons are in English.

Academic year 2011/2012

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.
- Teaching assistant of Operating Systems and System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering). Lessons are in English.
- Lecturer of the course of Reti di Calcolatori (Ingegneria Informatica), Politecnico di Torino in Scano di Montiferro (Sardegna). Lessons are in videoconference.

Academic year 2012/2013

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.
- Teaching assistant of Operating Systems and System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering). Lessons are in English.

Academic year 2013/2014

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.
- Teaching assistant of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering). Lessons are in English.

Academic year 2014/2015

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.

Academic year 2015/2016

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).

- Lecturer of the course of Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 8 credits). Lessons are in English.
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.

Academic year 2016/2017

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 6 credits). Lessons are in English.
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.

Academic year 2017/2018

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 6 credits). Lessons are in English.
- Lecturer of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in English). Lessons are in English.

Academic year 2018/2019

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 6 credits). Lessons are in English.
- Lecturer of the course of Quantum Computing (Torino, III level, PhD program in Computer and Control Engineering, 4 credits, 20 hours). Lessons are in English.
- Teaching assistant of the course of Parallel and Distributed Computing (Torino, III level, PhD program on Computer and Control Engineering, 5 credits, 25 hours). Lessons are in English.
- Teaching assistant of Architettura dei Sistemi di Elaborazione (Torino, Corso di Laurea in Ing. Informatica, II level in Italian). Lessons are in Italian.

Academic year 2019/2020

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Image Processing and Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 6 credits). Lessons are in English.
- Lecturer of the course of Quantum Computing (Torino, III level, PhD program on Computer and Control Engineering, 4 credits, 20 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in Italian). Lessons are in English.
- Teaching assistant of the course Introduzione all'informazione e calcolo quantistico (II year, I level, all degrees),. Lessons are in Italian.

- Teaching assistant of the course of Soluzioni di grafica 3D in applicazioni biometriche (Torino, II year, I level, all degrees). Lessons are in Italian.
- Teaching assistant of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering). Lessons are in English.

Academic year 2020/2021

- Lecturer of the course of Informatica (Torino, I year, I level, several Corsi di Laurea , 8 credits).
- Lecturer of the course of Image Processing and Computer Vision (Torino, I year, II level, Corso di Laurea Magistrale in Ing. Informatica e Ing. del Cinema, 6 credits).
- Lecturer of the course of System Programming (Torino, I year, II level, Corso Di Laurea Magistrale In Communications And Computer Networks Engineering, 6 credits). Lessons are in English.
- Lecturer of the course of Quantum Computing (Torino, III level, PhD program on Computer and Control Engineering, 4 credits, 20 hours). Lessons are in English.
- Teaching assistant of Computer Architectures (Torino, Corso di Laurea in Ing. Informatica, II level in Italian). Lessons are in English.
- Teaching assistant of the course Introduzione all'informazione e calcolo quantistico (II year, I level, all degrees),. Lessons are in Italian.
- Teaching assistant of the course of Soluzioni di grafica 3D in applicazioni biometriche (Torino, II year, I level, all degrees). Lessons are in Italian.
- Teaching assistant of the course of Parallel and Distributed Computing (Torino, III level, PhD program in Computer and Control Engineering). Lessons are in English.

Teaching activities for SIS and CIFIS

Bartolomeo Montrucchio has hold (always as lecturer) several course in SIS, as in the following list:

Academic year 2003/2004 - V cycle SIS

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica, sector A042 (Informatica), indirizzo Tecnologico.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector A042 (Informatica), indirizzo Tecnologico.

Academic year 2004/2005 - VI cycle SIS

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica, sector A042 (Informatica), indirizzo Tecnologico.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector A042 (Informatica), indirizzo Tecnologico.

Academic year 2005/2006 - VII cycle SIS

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica, sector A042 (Informatica), indirizzo Tecnologico.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica, sector AD18 (Informatica-ITP, Legge 143), indirizzo Tecnologico. This course has been borrowed (mutuato) from the previous one in timetable.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector A042 (Informatica), indirizzo Tecnologico.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector AD18 (Informatica-ITP, Legge 143), indirizzo Tecnologico. This course has been borrowed (mutuato) from the previous one in timetable.

Academic year 2006/2007 - VIII cycle SIS

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica, sector A042 (Informatica), indirizzo Tecnologico.
- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector A042 (Informatica), indirizzo Tecnologico.

Academic year 2007/2008 - IX cycle SIS

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Didattica dell'Informatica,

sector A042 (Informatica), indirizzo Tecnologico.

- Lecturer (free of charge professorship "a titolo gratuito") of the course of Laboratorio di Informatica di Base, sector A042 (Informatica), indirizzo Tecnologico.

Academic year 2013/2014 - TFA-PAS - CIFIS

Part-time Lecturer (free of charge professorship "a titolo gratuito" of 12 hours) of the course of Didattica dell'Informatica in sectors A033, A034, A042 and C310, indirizzo Tecnologico.

Academic year 2014/2015 - TFA-PAS - CIFIS

Part-time Lecturer (free of charge professorship "a titolo gratuito" of 6 hours) of the course of Didattica dell'Informatica nelle classi A033 e A042, indirizzo Tecnologico.

5. Institutional offices and roles in Italian and foreign Universities and/or public and private institutions

Bartolomeo Montrucchio is, starting from 2 July 2012, Deputy Director (Attachment 1) of Centro Interateneo di interesse regionale per la formazione degli Insegnanti Secondari (CIFIS), a consortium of Università di Torino, Politecnico di Torino and Università degli Studi del Piemonte Orientale, whose main purpose is to manage postgraduate specializing courses for future professors in the secondary school.

Inside CIFIS he also holds other roles, as certified by the letter of Prof. Luca Iuliano (Attachment 2), at the time delegate from the former Rector of Politecnico di Torino, Prof. Francesco Profumo, to manage SIS-CIFIS transition. In the last years he has also held other roles, as certified from the letters of Vice Rector for Education of Politecnico di Torino in 2015, Prof. Anita Tabacco (Attachment 3) and of Vice Rector for Education now in charge in Politecnico di Torino, Prof. Sebastiano Foti (Attachment 4).

Before being Deputy Director of CIFIS, he held other positions in the previous SIS (Scuola Interateneo di Specializzazione del Piemonte), starting from 2003. For the SIS specializing school he taught several courses and covered several roles, as certified from the letter of the former Director of SIS Prof. Sergio Cecchin (Attachment 5) and from the former Dean of the III faculty of Politecnico di Torino, Prof. Paolo Camurati (Attachment 6).

For SIS before and CIFIS later Bartolomeo Montrucchio managed several specializing addresses of courses, in particular for the A42 class, Computer Science, but also A033, for which he was the chairman of the committee for a special selection in July 2012 with more than 500 candidates (Attachment 7, signed from the former Rector of Università di Torino, Prof. Ezio Pelizzetti).

One recent duty was (May 2018) to be part of a committee for selecting professors for the future courses linked to CIFIS (Attachment 8).

Inside the Department of Control and Computer Engineering (DAUIN) Bartolomeo Montrucchio is a member of Giunta of the DAUIN Department of Politecnico di Torino starting from October 2015. In the past (2007) he was also a member of Commissione Comunicazione Esterna of the III Faculty (now no more existing).

Bartolomeo Montrucchio, from 4 April 2018, is a member (Attachment 9) of Commissione strategie per le Tecnologie dell'Informazione, whose chair has been at first Prof. Marco Mezzalama and now Prof. Paolo Montuschi. He has also been encharged to coordinate a sub-committee for Smart Working.

He was appointed as a member of several competition selection boards, in order to select technical personnel:

- Politecnico di Torino, Cat. C
- Regione Valle d'Aosta, Cat. D (2010)
- Università della Valle d'Aosta, Cat. C (2010)
- CNR-IEIIT (Torino), Researcher III level (2018)

Bartolomeo Montrucchio was also member of commission in competitive examination for a Researcher at Università di Verona (ING-INF/05) (2008).

For scientific and technology transfer aims he was appointed as Coordinator of Technology transfer: patents and spin-offs committee in the DAUIN Department of Politecnico di Torino.

Bartolomeo Montrucchio has been a tutor of three ASP (Alta Scuola Politecnica, composed by Politecnico di Torino and Politecnico di Milano) projects, from 2007 up to 2015.

He is in charge (from 2012) of Salone dell'Orientamento (for the course on Ingegneria Informatica only). It is an exhibition done for recruiting students from the High School in the first level courses, held in April each year in Politecnico di Torino.

Bartolomeo Montrucchio is enrolled in the REPRIZE database, for:

- Fundamental research (ERC area PE6_8)
- Applied research, with keywords computer vision, process control, image processing.

Bartolomeo Montrucchio has been a reviewer for PRIN projects in 2016 (national funds for fundamental research in Italy).

Bartolomeo Montrucchio has been a reviewer (2017) for a project of a company in Provincia Autonoma di Trento (project was on Computer Vision).

Bartolomeo Montrucchio has been a reviewer for Programma per Giovani Ricercatori "Rita Levi Montalcini".

Bartolomeo Montrucchio has been a reviewer in 2020 for two different projects for Equiter SpA; the projects were on ICT, in particular related to image processing.

Bartolomeo Montrucchio, since 2010, has been a consultant for Regione Valle d'Aosta to verify fundings given to companies following Legge Regionale (Valle d'Aosta) 7 December 1993, n.84:

- 8 projects reviewed up to now (up to several hundreds of thousands euro of fundings for each of them).

He worked as external technical expert for INVALSI tests for ITS (2013).

Bartolomeo Montrucchio was the chair of a committee encharged of managing "C.I.G. 7168360DCB - Convocazione sedute pubbliche per realizzazione piattaforma web per l'incontro della domanda e dell'offerta di lavoro di soggetti diplomati in percorsi ITS (gara pubblica di acquisto)" in Fondazione ITS per l'ICT Piemonte (November 2017).

Member of Collegio Docenti of the PhD program of Computer and Control Engineering for the two-years periods:

- 2014-2016
- 2018-2020
- 2020-2022

Member of the committee for PhD selection of the program of Computer and Control Engineering in:

- 2015 (XXXI cycle of PhD)
- 2016 (XXXII cycle of PhD)

List of all Bartolomeo Montrucchio's publications (also with reference to the last 10 years)

International Journals and Magazines

1. Sanna, P. Montuschi and B. Montrucchio, "Parallel Algorithm for Image Rendering and its Implementation", IEE Electronics Letters, Vol. 32, No. 14, July 1996, pp. 1275-1277, ISSN 0013-5194, Stevenage SG1 2SD (United Kingdom).
2. A. Sanna, P. Montuschi, A. Fisone and B. Montrucchio, "A New Algorithm for The Rendering of CSG Scenes," Computer Journal, Vol. 40, No. 9, pp. 555-564, 1997, ISSN 0010-4620, Oxford (United Kingdom).
3. B. Montrucchio, A. Sparavigna, and A. Strigazzi, "A new image processing method for enhancing the detection sensitivity of smooth transitions in liquid crystals", Liquid Crystals, Vol. 24, No. 6, pp. 841-852, 1998, ISSN 0267-8292, Taylor & Francis, Abingdon Oxfordshire (United Kingdom).
4. B. Montrucchio, A. Sparavigna, S. I. Torgova, and A. Strigazzi, "A novel order transition inside the nematic phase of trans-4-hexylcyclohexane-1-carboxylic acid discovered by image processing", Liquid Crystals, Vol. 25, No. 5, pp. 613-620, 1998, ISSN 0267-8292, Taylor & Francis, Abingdon Oxfordshire (United Kingdom).
5. A. Sanna, B. Montrucchio and A. Sparavigna, "A Parallel Algorithm of Texture Analysis for Liquid Crystal Investigation", Pattern Recognition Letters, Vol. 20, No. 2, pp. 183-190, 1999, ISSN 0167-8655, Elsevier, The Netherlands.
6. A. Sparavigna, A. Sanna, B. Montrucchio and A. Strigazzi, "Streamline Image Analysis: a New Tool for Investigating Defects in Nematic Liquid Crystals", Liquid Crystals, Vol. 26, No. 10, pp. 1467-1478, 1999, ISSN 0267-8292, Taylor & Francis, Abingdon Oxfordshire (United Kingdom).
7. B. Montrucchio, P. Montuschi, A. Sanna and A. Sparavigna, "Visualizing Vector Fields: the Thick Oriented Stream-Line Algorithm (TOSL)", Computers & Graphics, Vol. 25, No. 5, pp. 847-855, 2001, ISSN 0097-8493, Elsevier, DOI: 10.1016/S0097-8493(01)00126-1, The Netherlands.
8. A. Sanna, and B. Montrucchio, "3D Technologies and Products for E-Commerce on the Web", Software Focus, Vol. 2, No. 4. pp. 157-163, 2001, ISSN 1529-7942, John Wiley & Sons, Ltd. United States.
9. B. Montrucchio, F. Lamberti, A. Sanna and P. Montuschi, "Measuring isotropic local contrast: a circular mask based approach", Journal of WSCG, Vol. 10, 2002, pp. 83-90, ISSN 1213-6972, Plzen (Czech Republic).
10. F. Lamberti, B. Montrucchio, A. Sanna, and C. Zunino, "A Web-based Architecture Enabling Multichannel Telemedicine Applications", Journal on Systemics, Cybernetics and Informatics, Vol. 1, No. 1. pp. 25-31, 2003, ISSN 1690-4524.
11. A F. Lamberti, A. Gamba and B. Montrucchio, "Computer-assisted analysis of in-vitro vasculogenesis and angiogenesis processes", Journal of WSCG, Vol. 12, No. 1, 2004, pp. 237-244, ISSN 1213-6972, Plzen (Czech Republic).
12. D. Quaglia, M. Perga, B. Montrucchio and P. Montuschi, "On New Sorting-Based Lossless Motion Estimation Algorithms", Wseas Transactions on Communications, Issue. 1, Vol. 3, January 2004, pp. 359-364, ISSN: 1109- 2742.
13. F. Lamberti, B. Montrucchio and A. Sanna, "BBFHE: Block-based Binomial Filtering Histogram Equalization", Wseas Transactions on Information Science & Applications, Issue. 6, Vol. 1, Dec. 2004, pp. 1591-1596, ISSN:1790- 0832.
14. B. Montrucchio and D. Quaglia, "New Sorting-Based Lossless Motion Estimation Algorithms and a Partial Distortion Elimination Performance Analysis", IEEE Transactions on Circuits and Systems for Video Technology, Vol. 15, No. 2, February 2005, pp. 210-220, ISSN 1051-8215, United States, DOI: 10.1109/TCSVT.2004.841689.
15. A. R. Wolf, A. Sparavigna and B. Montrucchio, "RFID Label Converting: Quality Enhancement with Atmospheric Plasma Treatments", WSEAS TRANSACTIONS ON SYSTEMS. vol. 5, 2006, pp. 1988-1996 ISSN: 1109-2777.
16. A. Sparavigna and B. Montrucchio, "Performing Textile Fault Detection by Means of Texture Analysis", WSEAS TRANSACTIONS ON SIGNAL PROCESSING. vol. 2, 2006, pp. 541-548 ISSN: 1790-5022.
17. A. Sparavigna, A. Mello and B. Montrucchio, "Texture transitions in the liquid crystalline alkyloxybenzoic acid 6OBAC", PHASE TRANSITIONS. vol. 79, 2006, pp. 293-303 ISSN: 0141-1594, Taylor & Francis, DOI: 10.1080/01411590600748132, Oxford (United Kingdom).
18. F. Lamberti, B. Montrucchio and A. Sanna, "CMBFHE: A Novel Contrast Enhancement Technique based on Cascade Multistep Binomial Filtering Histogram Equalization", IEEE TRANSACTIONS ON CONSUMER ELECTRONICS. vol. 52-3, 2006, pp. 966-974 ISSN: 0098-3063, DOI: 10.1109/TCE.2006.1706495, United States.

19. A. Sparavigna, A. Mello and B. Montrucchio, "Texture transitions in binary mixtures of 6OBAC with compounds of its homologous series", *PHASE TRANSITIONS*, vol. 80, 2007, pp. 191-201 ISSN: 0141-1594, Taylor & Francis, Oxford (United Kingdom), DOI: 10.1080/01411590601007603
20. A. Sparavigna, A. Mello and B. Montrucchio, "Fan-shaped, toric and spherulitic textures of mesomorphic oxadia- zoles", *PHASE TRANSITIONS*, vol. 80, 2007, pp. 987-998 ISSN: 0141-1594, Taylor & Francis, Oxford (United Kingdom), DOI: 10.1080/01411590701466766.
21. A. C. Sparavigna, A. Mello, and B. Montrucchio, "Growth of toric domains in mesophases of oxadiazoles," *PHASE TRANSITIONS*, vol. 81, pp. 471-477, 2008, ISSN: 0141-1594, Taylor & Francis, Oxford (United Kingdom), DOI: 10.1080/01411590701854938.
22. F. Gandino, E. Sanchez, B. Montrucchio, and M. Rebaudengo, "Opportunity and constraints for wide adoption of rfid in agri-food," *INTERNATIONAL JOURNAL OF ADVANCED PERVASIVE AND UBIQUITOUS COMPUTING*, vol. 1(2), pp. 49-67, 2009.
23. F. Gandino, B. Montrucchio, M. Rebaudengo, and E. Sanchez, "On improving automation by integrating rfid in the traceability management of the agri-food sector," *IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS*, vol. 56(7), pp. 2357-2365, 2009, DOI: 10.1109/TIE.2009.2019569, United States.

INTERNATIONAL JOURNALS AND MAGAZINES OF THE LAST 10 YEARS

24. F. Gandino, B. Montrucchio, and M. Rebaudengo, "Tampering in rfid: A survey on risks and defenses," *JOURNAL ON SPECIAL TOPICS IN MOBILE NETWORKS AND APPLICATIONS*, vol. 15 (4), pp. 502-516, 2010, DOI: 10.1007/s11036-009-0209-y, ISSN: 1383469X
25. F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, "Probabilistic dcs: An rfid reader-to-reader anti- collision protocol," *JOURNAL OF NETWORK AND COMPUTER APPLICATIONS*, vol. 34, no. 3, pp. 821- 832, 2011, DOI: 10.1016/j.jnca.2010.04.007, Olanda.
26. B. Jan, B. Montrucchio, C. S. Ragusa, F. G. Khan, and O. U. Khan, "Fast parallel sorting algorithms on gpus," *INTERNATIONAL JOURNAL OF DISTRIBUTED AND PARALLEL SYSTEMS*, vol. 3, pp. 107-118, 2012.
27. R. Ferrero, F. Gandino, B. Montrucchio, and M. Rebaudengo, "A fair and high throughput reader-to-reader anticollision protocol in dense rfid networks," *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, vol. 8, no. 3, pp. 697-706, 2012, DOI 10.1109/TII.2011.2176742, United States.
28. L. Zhang, F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, "Trade-off between maximum car- dinality of collision sets and accuracy of rfid reader-to-reader collision detection," *EURASIP JOURNAL ON EMBEDDED SYSTEMS*, vol. 2013, no. 10, 2013, DOI: 10.1186/1687-3963-2013-10, Germany.
29. O. Khan, F. Khan, C. S. Ragusa, and B. Montrucchio, "Review of parallel and distributed architectures for micromagnetic codes," *COMPEL*, vol. 32, no. 6, pp. 1891-1900, 2013, DOI 10.1108/COMPEL-10-2012-0271, United Kingdom.
30. O. Khan, C. S. Ragusa, F. Khan, and B. Montrucchio, "A mutual demagnetizing tensor for n-body magnetic field modeling," *IEEE TRANSACTIONS ON MAGNETICS*, vol. 49, no. 7, pp. 3179-3182, 2013, DOI 10.1109/TMAG.2013.2245869, United States.
31. F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, "Dcns: an adaptable high throughput rfid reader- to-reader anti-collision protocol," *IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS*, vol. 24, no. 5, pp. 893-905, 2013, DOI: 10.1109/TPDS.2012.208, United States.
32. A. Carpinteri, G. Lacidogna, B. Montrucchio, S. Cammarano, "The effect of the warping deformation on the structural behaviour of thin-walled open section shear walls", *THIN-WALLED STRUCTURES*, vol. 84, pp. 335-343. - ISSN 0263-8231, 2014, DOI: 10.1016/j.tws.2014.07.009.
33. R. Ferrero, F. Gandino, B. Montrucchio, and M. Rebaudengo, "Improving colorwave with the probabilistic approach for reader-to-reader anti-collision tdma protocols," *WIRELESS NETWORKS*, 20 (3) pp. 397 - 409, 2014, DOI 10.1007/s11276-013-0611-z, United States.
34. F. Gandino, B. Montrucchio, M. Rebaudengo, "Key Management for Static Wireless Sensor Networks With Node Adding", 2014, *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, vol. 10 n. 2, pp. 1133-1143. - ISSN 1551-3203, DOI:10.1109/TII.2013.2288063, United States.
35. Montrucchio Bartolomeo, Celozzi Cesare, Cerutti Paolo, "Thresholds of Vision of the Human Visual System: Visual Adaptation for Monocular and Binocular Vision", 2015, *IEEE TRANSACTIONS ON HUMAN-MACHINE SYSTEMS*, vol. 45, p. 739-749, ISSN: 2168-2291, doi: 10.1109/THMS.2015.2469155, United States.
36. Umberto Lucia, Giuseppe Grazzini, Bartolomeo Montrucchio, Giulia Grisolia, Romano Borchiellini, Gianpiero Gervino, Carlotta Castagnoli, Antonio Ponzetto, Francesca Silvagno, "Constructal thermodynamics combined with infrared experiments to evaluate temperature differences in cells",

- 2015, SCIENTIFIC REPORTS, vol. 5, p. 1-10, ISSN: 2045-2322, doi: 10.1038/srep11587, United Kingdom.
37. Bartolomeo Montrucchio, Renato Ferrero, "Toner savings based on quasi-random sequences and a perceptual study for green printing", 2016, IEEE TRANSACTIONS ON IMAGE PROCESSING, vol. 25, p. 2635-2646, ISSN: 1057-7149, doi: 10.1109/TIP.2016.2552641, United States.
 38. Velasco A. D., Montrucchio B., Rebaudengo M. , "KITO tool: A fault injection environment in Linux kernel data structures", 2016, MICROELECTRONICS RELIABILITY, vol. 60, p. 153-162, ISSN: 0026-2714, doi: 10.1016/j.microrel.2016.02.011, United States.
 39. Gandino Filippo, Ferrero Renato, Montrucchio Bartolomeo, Rebaudengo Maurizio, "Fast Hierarchical Key Management Scheme with Transitory Master Key for Wireless Sensor Networks", 2016, IEEE INTERNET OF THINGS JOURNAL, vol. 3, p. 1334-1345, ISSN: 2327-4662, doi: 10.1109/JIOT.2016.2599641, United States.
 40. Velasco Alejandro, Ferrero Renato, Gandino Filippo, Montrucchio Bartolomeo, Rebaudengo Maurizio, "A mobile and low-cost system for environmental monitoring: a case study", 2016, SENSORS, vol. 16, p. 1-17, ISSN: 1424-8220, doi: 10.3390/s16050710, Switzerland.
 41. Khan Fiaz Gul, Montrucchio Bartolomeo, Jan Bilal, Khan Abdul Nasir, Jadoon Waqas, Shamshirband Shahaboddin, Chronopoulos Anthony Theodore, Khan Iftikhar Ahmed, "An optimized magnetostatic field solver on GPU using open computing language", 2017, CONCURRENCY AND COMPUTATION, vol. 29, ISSN: 1532-0626, doi: 10.1002/cpe.3981, United States.
 42. Gandino Filippo, Montrucchio Bartolomeo, Rebaudengo Maurizio, "A security protocol for RFID traceability", 2017, INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol. 30, p. N/A, ISSN: 1074-5351, doi: 10.1002/dac.3109, United States.
 43. Jan, B., Farman, H., Javed, H., Montrucchio, B., Khan, M., Ali, S., "Energy efficient hierarchical clustering approaches in wireless sensor networks: A survey", 2017, Wireless Communications and Mobile Computing, p1-14, ISSN: 1530-8669 doi: 10.1155/2017/6457942, Egypt.
 44. Jan, B., Khan, F.G., Montrucchio, B., Chronopoulos, A.T., Shamshirband, S., Khan, A.N., "Introducing ToPe-FFT: An OpenCL-based FFT library targeting GPUs", 2017, Concurrency and Computation, 29 (21), pp.e4256-e4269, ISSN 1532-0626, doi: 10.1002/cpe.4256, United States.
 45. Hemmatpour, M., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "Internet of Things for fall prediction and prevention", 2018, Journal of Computational Methods in Science and Engineering, 18 (2), pp. 511-518., ISSN: 1472-7978, doi: 10.3233/JCM-180806, Netherlands.
 46. Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "A cost-effective proposal for an RFID-based system for agri-food traceability", 2018, International Journal of Ad Hoc and Ubiquitous Computing, 27 (4), pp. 270-280, ISSN:1743-8225, doi: 10.1504/IJAHUC.2018.090598, Switzerland.
 47. Hemmatpour, M, Ferrero, R., Gandino F., Montrucchio, B., Rebaudengo, M., "Nonlinear predictive threshold model for real-time abnormal gait detection", 2018, Journal of Healthcare Engineering, article no. 4750104, ISSN: 20402295, doi: 10.1155/2018/4750104, UK.
 48. Hemmatpour, M., Montrucchio, B., Rebaudengo, M., "Communicating efficiently on cluster-based remote direct memory access (RDMA) over Infiniband protocol", 2018, Applied Sciences, Vol 8 Issue 11, 24 Oct 2018, ISSN: 20763417, doi:10.3390/app8112034, Switzerland.
 49. Gandino, F., Montrucchio, B., Rebaudengo, M., "Redundancy in Key Management for WSNs", 2018, Cryptography, Vol 2, 8 Dec 2018, ISSN: 2410-387X, doi: 10.3390/cryptography2040040, MDPI, Switzerland.
 50. Montrucchio, B., Moraru, S.A., Pozna, C., Vales, A.J., "Mobility for the Internet of Things", 2018, Mobile Information Systems, pp. 1-2, ISSN: 1574-017X, doi: 10.1155/2018/2127383, Hindawi, Egypt.
 51. Giusto, E., Gandino, F., Greco, M.L., Grosso, M., Montrucchio, B., Rinaudo, S., "An investigation on pervasive technologies for IoT-based thermal monitoring", Sensors, Vol 19 Issue 3, 1 February 2019, ISSN: 14248220, doi: 10.3390/s19030663, Switzerland.
 52. Hemmatpour, M., Ferrero, R., Montrucchio, B., Rebaudengo, M., "A review on fall prediction and prevention system for personal devices: evaluation and experimental results", 2019, Advances in Human-Computer Interaction, ISSN: 1687-5893, doi: 10.1155/2019/9610567, UK.
 53. Giusto, E., Ghazi Vakili, M., Gandino, F., Demartini, C.G., Montrucchio, B., "Quantum Pliers

- Cutting the Blockchain”, 2020, IT Professional, ISSN: 1520-9202, doi: 10.1109/MITP.2020.2974690, pp. 90-96, vol 22(6), IEEE, USA.
54. Scanzio, S., Ghazi Vakili, M., Cena, G., Demartini, C.G., Montrucchio, B., Valenzano, A., Zunino, C., “Wireless Sensor Networks and TSCH: a compromise between Reliability, Power Consumption and Latency”, 2020, IEEE Access, ISSN: 2169-3536, doi: 10.1109/ACCESS.2020.3022434, Vol 8, pp.167042-167058, IEEE, USA.
55. Montrucchio, B., Giusto, E., Ghazi Vakili, M., Quer, S., Ferrero, R., Fornaro, C., “A Densely-Deployed, High Sampling Rate, Open-Source Air Pollution Monitoring WSN”, 2020, IEEE Transactions on Vehicular Technology, ISSN: 0018:9545, doi: 10.1109/TVT.202.3035554, IEEE, USA.
56. Hemmatpour, M., Montrucchio, B., Rebaudengo, M., Sadoghi, M., “Analyzing In-Memory NoSQL Landscape”, 2020, IEEE Transactions on Knowledge and Data Engineering, ISSN: 1041:4347, doi: 10.1109/TKDE.2020.3002908, IEEE, USA.

International patents (US and EU only, already granted) (all these patents have been granted in the last 10 years; there are also other Italian (granted) patents and there are also patents not yet granted)

57. EP2655048B1, A method and an apparatus for controlling production and feeding of semifinished products in a tyre building process ,Pirelli Tyre S.p.A., "Michele Ballabio, Gaetano Lo Presti, Bartolomeo Montrucchio, Vincenzo Orlando". Grant of 4 January 2017.
58. US9188975B2, Method for controlling the movement of building members of a tyre in a process for manufacturing tyres for vehicle wheels , "Pirelli Tyre S.P.A., Politecnico Di Torino", "Michele Ballabio, Gaetano Lo Presti, Bartolomeo Montrucchio, Vincenzo Orlando, Gianni Mancini". Grant of 17 November 2015.
59. EP 2 782 749 B1, Method of controlling the movement of tyre building members in a process for manufacturing tyres for vehicle wheels , "Pirelli Tyre S.P.A., Politecnico Di Torino", "Michele Ballabio, Gaetano Lo Presti, Bartolomeo Montrucchio, Vincenzo Orlando, Gianni Mancini". Grant of 27 April 2016.
60. EP2751539B1, Method for controlling the deposition of elementary semifinished products in a process for building tyres for vehicle wheels ,Pirelli Tyre S.p.A., "Michele Ballabio, Gaetano Lo Presti, Bartolomeo MONTRUCCHIO, Vincenzo Orlando". Grant of 9 March 2016.
61. US 9 289 956 B2, Method for controlling the deposition of elementary semifinished products in a process for building tyres for vehicle wheels ,Pirelli Tyre S.p.A., "Michele Ballabio, Gaetano Lo Presti, Bartolomeo MONTRUCCHIO, Vincenzo Orlando". Grant of 22 March 2016.
62. EP 2 901 128 B1, Method for controlling the manufacturing of tyres for wheels of vehicles ,Pirelli Tyre S.p.A., "Vincenzo Boffa, Marco Gallo, Bartolomeo Montrucchio". Grant of 5 July 2017.
63. US9395275B2, Method for controlling the manufacturing of tyres for wheels of vehicles ,Pirelli Tyre S.P.A., "Vincenzo Boffa, Marco Gallo, Bartolomeo Montrucchio". Grant of 19 July 2016.

Book chapters with peer review

64. A. Sparavigna, A. Mello, and B. Montrucchio, “Pattern recognition in the microscopy of liquid crystals: Description, comparison and choice”, in: Pandalai S. G. Recent Research Development in Pattern Recognition, Vol. 1, pp. 29-40, 2000, ISBN 81-86846-61-1, Transworld Research Network (India).
65. A. Sanna, B. Montrucchio and P. Montuschi, “A survey on visualization of vector fields by texture-based methods”, in: Pandalai S. G. Recent Research Development in Pattern Recognition, Vol. 1, pp. 13-27, 2000, ISBN 81-86846-61-1, Transworld Research Network (India).
66. S. E.R, F. Gandino, B. Montrucchio, and M. Rebaudengo, “Public-key in rfid: Appeal for asymmetry,” in Security in RFID and sensor networks / ZHANG YAN; KITSOS PARIS, pp. 195–216, CRC Press, 2009.
67. F. Gandino, S. E.R, B. Montrucchio, and M. Rebaudengo, “Rfid technology for agri-food traceability management,” in Auto-identification and Ubiquitous Computing Applications: Rfid and Smart Technologies for Information Convergence / JUDITH A. SYMONDS; DAVE PARRY; JOHN AYOADE, pp. 54–73, HERSHEY, PA 17033: Information Science Publishing, 2009.

68. F. Gandino, E. Sanchez, B. Montrucchio, and M. Rebaudengo, "New perspectives on adoption of rfid technology for agrifood traceability," in *Emerging Pervasive and Ubiquitous Aspects of Information Systems: Cross-Disciplinary Advancements* / Judith Symonds, pp. 112–131, Hershey: IGI Global, 2011.
69. Giusto, E., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "Advancements in Distributed Air Quality Monitoring Systems", in *Advances in Sensors: Reviews* / Sergey Y.Yurish, pp. 127-137, IFSA Publishing, ISBN: 9788409030309, 2018.
70. Hemmatpour, M., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "Data Reduction Techniques for Near Real-Time Decision Making in Fall Prediction Systems", in *Exploration of Healthcare Using Data Mining Techniques* / Desarkar A., Das A., pp.52-64, IGI Global, USA, ISBN: 1522552227, 2018.
71. Hemmatpour, M., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "Cost Evaluation of Synchronization Algorithms for Multicore Architectures", in *Encyclopedia of Information Science and Technology, Fourth Edition* / Mehdi Khosrow-Pour D.B.A., pp. 3989-4003, IGI Global, USA, ISBN: 1522522557, 2018.
72. Scionti, A., Terzo, O., D'Amico, C., Montrucchio, B., Ferrero, R., "Machine Learning on Low-Power Low-Cost Platforms: an Application Case Study" in *Heterogeneous Computing Architectures: Challenges and Vision* / Terzo O., Djemame K., Scionti A., Pezuela C., pp. 191-220, CRC Press, USA, ISBN: 9780367023447, 2019.

International conferences with peer review

73. B. Montrucchio, A. Sparavigna, S.I. Torgova, A. Strigazzi, "Image Statistical Treatment and alignment transition of trans-4-hexylcyclohexane carboxylic acid in the nematic phase", in *Abstracts: III Congresso nazionale societ`a italiana cristalli liquidi*, Mondello, 28-30 maggio 1998.
74. B. Montrucchio, A. Sparavigna, S.I. Torgova, A. Strigazzi, "Pattern recognition and order transition of the smectogenic trans-4-hexylcyclohexane carboxylic acid in nematic phase", in *Abstracts: 17th International liquid crystal conference*. Strasburgo, 18-24 luglio, p. 249.
75. A. Sanna, B. Montrucchio, R. Arina and L. Massasso, "A 3D Fluid-Flow Visualizer for Entry Level Computers", *WSCG'99 The 7-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'99*, Plzen (Czech Republic), pp. I249-I256.
76. A. Sanna, B. Montrucchio, R. Arina, "On Time-Varying Flow Fields: a streakline-based visualization method", *Eurographics'99 Short Papers and Demos Proceedings*, pp. 30-33, Sept. 1999.
77. A. Sanna, B. Montrucchio and R. Arina, "Visualizing Unsteady Flows by Adaptive Streaklines", *WSCG'2000 The 8-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2000*, Plzen (Czech Republic), pp. I84-I91.
78. A. Sanna and B. Montrucchio, "Adding a scalar value to 2D vector field visualization: the BLIC (Bumped LIC)", *Eurographics'2000 Short Presentations Proceedings*, pp. 119-124, Aug. 2000.
79. A. Sanna, B. Montrucchio, and P. Montuschi, "B2LIC: an algorithm for mapping two scalar values on texture-based representations of vector fields", *WSCG'2001 The 9-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2001*, Plzen (Czech Republic), pp. 138-145.
80. C. Zunino, B. Montrucchio, A. Sanna, and C. Demartini, "A distributed visualization environment for scientific visualization based on jini technology", *Computer Graphics, Spring Conference on*, 2001, pp. 95-101.
81. Sanna, B. Montrucchio, P. Montuschi, and C. Demartini, "3D-dvshop: a 3D dynamic virtual shop", *Proc. of the 6th Eurographics Workshop on Multimedia*, Manchester (UK), 2001, pp. 23-32.
82. D. Quaglia, and B. Montrucchio, "Sobol Partial Distortion Algorithm for Fast Full Search in Block Motion Estimation", *Proc. of the 6th Eurographics Workshop on Multimedia*, Manchester (UK), 2002, pp. 87-94.
83. Sanna, B. Montrucchio, C. Zunino, and P. Montuschi, "Enhanced Vector Field Visualization by Local Contrast Analysis", *WSCG'2002 The 10-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2002*, Plzen (Czech Republic), pp.II389-II396.
84. Montrucchio, F. Lamberti, A. Sanna, and P. Montuschi, "Measuring Isotropic Local Contrast: a Circular Mask Based Approach", *WSCG'2002 The 10-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2002*, Plzen (Czech Republic), Short Communication Papers pp.83- 90.
85. Sanna, C. Zunino, B. Montrucchio, and P. Montuschi, "Adding a scalar value to texture-based vector field representations by local contrast analysis", *Eurographics/IEEE TCVG Symposium on Data Visualization 2002*, pp.35-41.

86. F. Lamberti, B. Montrucchio, and C. Demartini, "A Wireless-based Architecture for Medical Teleconsulting", 16th Biennial International Eurasip Conference Biosignal 2002, Brno, pp.454-456. The paper won the first prize in Student Paper Competition.
87. F. Lamberti, B. Montrucchio, and C. Demartini, "Modelling of a GPRS-based Mobile Telemedicine System for Real Time Monitoring and Collaborative Diagnosis", IV International Workshop on Biosignal Interpretation BSI2002, 24-26 Giugno 2002, Como, pp.493-496.
88. Zunino, F. Lamberti, A. Sanna and B. Montrucchio, "A Wireless Architecture For Performance Monitoring And Visualization On PDA Devices", in SCI'02 Proceedings, Orlando, 14-18 July 2002, vol. XV, pp.143-148.
89. F. Lamberti, B. Montrucchio, A. Sanna, and C. Zunino, "A Web-based architecture enabling multichannel telemedicine applications", in SCI'02 Proceedings, Orlando, 14-18 July 2002, vol. XIII, pp. 257-261.
90. F. Lamberti, A. Fiume and B. Montrucchio, "Interactive teleradiology: design and development of a wireless architecture enabling user mobility", in EMBE'02 Proceedings, Vienna, 4-8 dicembre 2002, vol. 3, pp. 1396- 1397.
91. S. Delsanto, F. Lamberti and B. Montrucchio, "Automatic ocular artifact rejection based on independent component analysis and eyeblink detection" Neural Engineering, 2003. Conference Proceedings. First International IEEE EMBS Conference on , 20-22 March 2003 pp. 309 - 312.
92. F. Lamberti e B. Montrucchio, "Ubiquitous real-time monitoring of critical-care patients in intensive care units", Information Technology Applications in Biomedicine, 2003. 4th International IEEE EMBS Special Topic Conference on , 24-26 aprile 2003, pp. 318-321.
93. Y. Carpegna, M. Pissardo, B. Montrucchio and A. Sanna, "A grid computing-based architecture for on demand movie rendering", in SCI'03 Proceedings, Orlando, 27-30 July 2003, vol. 5, pp. 7-12.
94. F. Lamberti and B. Montrucchio, "Segmentation of in-vitro endothelial cell networks", Proc. of the IEEE International Symposium on Medical Imaging: From Nano to Macro ISBI2004, Washington, 2004, pp. 129-132.
95. W. Gardiol, F. Monge, G. Ferrero Giacominetto, F. Lamberti and B. Montrucchio, "Multi-channel visualization and management on mobile devices of a cluster-based distributed application", in SCI'04 Proceedings, Orlando, 18-21 July 2004, vol. 2, pp. 28-32.
96. M. Pissardo, G. Ferrero Giacominetto, B. Montrucchio e C. Demartini, "An autonomic computing framework for distributed resources management and devices integration", in WMSCI 2005 Proceedings, Orlando, USA, 10-13 July 2005.
97. F. Lamberti, B. Montrucchio, A. Gamba, "Quantitative Analysis of Vascular Structures Geometry using Neural Networks", in IEEE Workshop on Signal Processing Systems, SIPS 2005, November 2005, Athens, pp. 378-383.
98. Montrucchio, F. Lamberti, A. Gamba, G. Serini, "Tracking Endothelial Cells During Blood Vessel Networks Assembly using Active Contours", in IEEE Workshop on Signal Processing Systems, SIPS 2005, November 2005, Athens, pp. 384-389.
99. Sparavigna, G. Dorma, B. Montrucchio, "Diffractive optics for fabric fault detection", SCI2006 - X World Multi-Conference on Systemics, Cybernetics and Informatics. July 16-19 2006. (vol. 5, pp. 82-88), Orlando (Florida, USA).
100. F. Lamberti, B. Montrucchio, "Tracking endothelial cells using multiframe point correspondence", Proceedings 28th IEEE EMBS Annual International Conference, EMBC 2006, pp. 1964-1967, Aug. 30-Sept. 3 2006, New York.
101. P. Bernardi, F. Gandino, B. Montrucchio, M. Rebaudengo, E. R. Sanchez, "Design of an UHF RFID Transponder for Secure Authentication", GLSVLSI 2007, Stresa, Lago Maggiore, Italy. March 11-13, 2007.
102. P. Bernardi, C. Demartini, F. Gandino, B. Montrucchio, M. Rebaudengo, E.R. Sanchez, "Agri-Food Traceability Management using a RFID System with Privacy Protection", Proceedings of the 21st IEEE International Conference on Advanced Information Networking and Applications (AINA-07), Niagara Falls (Canada), pp. 68-75, 21-23 maggio 2007, DOI: 10.1109/AINA.2007.29.
103. F. Gandino, B. Montrucchio, M. Rebaudengo, E.R. Sanchez, "Analysis of an RFID-based Information System for Tracking and Tracing in an Agri-Food chain", 1st Annual RFID Eurasia Conference, Vol. 1, pp. 143-148, Istanbul, Turkey, 5-6 settembre 2007, DOI: 10.1109/RFIDEURASIA.2007.4368112
104. E.R. Sanchez, F. Gandino, B. Montrucchio, M. Rebaudengo, "Increasing Effective Radiated Power in Wireless Sensor Networks with Channel Coding Techniques", ICEAA07, pp. 403-406, Torino, Italy, 17-21 settembre 2007.
105. Demartini, F. Gandino, B. Montrucchio, M. Rebaudengo, and E. Sanchez, "Rfid for agri-food traceability: methods for authentication, integrity and privacy," in Workshop on Emerging Technologies for Radio-frequency Identification, pp. 87-93, 2008.

106. P. Bernardi, F. Gandino, F. Lamberti, B. Montrucchio, M. Rebaudengo, and E. Sanchez, "An anti-counterfeit mechanism for the application layer in low-cost rfid devices," in Proc. 4th European Conference on Circuits and Systems for Communications, vol. 1, pp. 227–231, 2008, Bucharest; Romania; 10 July 2008 through 11 July 2008, DOI:10.1109/ECCSC.2008.4611682.
107. C. S. Ragusa, B. Montrucchio, M. Repetto, V. Giovara, F. Freschi, and B. Xie, "A low cost parallel and distributed architecture for full micromagnetic numerical codes," in Proceedings of 17th Conference of the Computation of Electromagnetics Fields /, pp. 1–8, 2009.
108. Sanchez, C. Chaudet, and B. Montrucchio, "An energy consumption model of variable preamble sampling mac protocols for wireless sensor networks," in IEEE 20th International Symposium on Personal, Indoor and Mobile Radio Communications, pp. 2285–2289, 2009, Tokyo; Japan; 13 September 2009 through 16 September 2009, DOI: 10.1109/PIMRC.2009.5449970.
109. Gandino, B. Montrucchio, and M. Rebaudengo, "Random key pre-distribution with transitory master key for wireless sensor networks," in CoNEXT Student Workshop'09, 2009, Rome; Italy; 1 December 2009 through 4 December 2009, DOI: 10.1145/1658997.1659012
110. S. E.R, C. Chaudet, and B. Montrucchio, "Power reduction by adapting strobed preambles in wireless sensor networks," in 6th European Conference on Wireless Sensor Networks - Demos/Posters, 2009.
111. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, "Introducing probability in rfid reader-to-reader anti-collision," in The 8th IEEE International Symposium on Network Computing and Applications (IEEE NCA09), 2009, Cambridge, MA,; United States; 9 July 2009 through 11 July 2009, DOI: 10.1109/NCA.2009.45.

INTERNATIONAL CONFERENCES OF THE LAST TEN YEARS

112. F. G. Khan, O. U. Khan, and B. Montrucchio, "A study of odd-even and rank parallel sorting algorithms for gpu," in Innovation Information Technologies: Theory and Practice, (Dresden), Forschungszentrum Dresden - Rossendorf, 2010.
113. F. G. Khan, M. Corrado, B. Montrucchio, and A. Saeed, "Gossip-based supervision for wireless autonomic networks and services," in IEEE, 6th International Conference on Emerging Technologies, Oct, 2010, (Islamabad), pp. 376–381, IEEE, 2010, DOI: 10.1109/ICET.2010.5638456.
114. R. Ferrero, F. Gandino, B. Montrucchio, and M. Rebaudengo, "Fair anti-collision protocol in dense rfid networks," in The Third International EURASIP Workshop on RFID Technology, pp. 101–105, 2010.
115. D. Apiletti, E. M. Baralis, T. Cerquitelli, S. A. Chiusano, B. Montrucchio, L. Murillo, M. Rebaudengo, E. Sanchez, and D. Tonelli, "Exploiting wireless sensor networks for monitoring building performance," in Congresso Nazionale AICA 2010, 2010.
116. E. Sanchez, L. Murillo, B. Montrucchio, and M. Rebaudengo, "An adaptive power-aware multi-hop routing algorithm for wireless sensor networks," in 8th International Conference on Information Technology: New Generations (ITNG), Las Vegas, NV; United States; 11 April 2011 through 13 April 2011, pp. 112–115, 2011, DOI: 10.1109/ITNG.2011.27.
117. E. Sanchez, B. Montrucchio, and M. Rebaudengo, "Monitoring and modeling building energy expenditure with sensor networks," in 1st International Conference on Pervasive and Embedded Computing and Communications Systems (PECCS), Vilamoura, Algarve; Portugal; 5 March 2011 through 7 March 2011, pp. 283–287, SciTePress, 2011, ISBN: 978-989842548-5.
118. F. Gandino, R. Ferrero, B. Montrucchio, and M. Rebaudengo, "Increasing throughput in rfid multi-reader environments avoiding reader-to-reader collisions," in 2011 IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV; United States; 9 January 2011 through 12 January 2011, pp. 37–38, 2011, DOI: 10.1109/ICCE.2011.5722638.
119. E. Sanchez, B. Montrucchio, L. Murillo, and M. Rebaudengo, "Adaptive fuzzy-mac for power reduction in wireless sensor networks," in New Technologies, Mobility and Security (NTMS), 2011, Paris; France; 7 February 2011 through 10 February 2011, 4th IFIP International Conference on, pp. 1–5, 2011, DOI: 10.1109/NTMS.2011.5720629
120. F. G. Khan, O. U. Khan, B. Montrucchio, and P. Giaccone, "Analysis of fast parallel sorting algorithms for gpu architectures," in 9th International Conference on Frontiers of Information Technology, Islamabad, pp. 173–178, 19-21 dic 2011, DOI: 10.1109/FIT.2011.39.
121. E. Sanchez, L. Murillo, B. Montrucchio, and M. Rebaudengo, "Efficient energy-aware routing for sensor networks," in 2nd IEEE Latin American Symposium on Circuits and Systems (LASCAS), pp. 1–4, 2011, DOI: 10.1109/LASCAS.2011.5750315.
122. R. Ferrero, F. Gandino, L. Zhang, B. Montrucchio, and M. Rebaudengo, "Simulating reader-to-reader interference in rfid systems," in 27th International Conference on Advanced Information Networking and Applications Workshops, pp. 1063–1069, IEEE, 2013, DOI: 10.1109/WAINA.2013.90.

123. B. Montrucchio, "Perceptual comparison of demosaicing algorithms and in-camera demosaicing with jpeg compression," in VISAPP 2013, Proceedings of the International Conference on Computer Vision Theory and Applications, vol. 1, (Lisbona), pp. 130–133, SCITEPRESS - Science and Technology Publications, 2013, ISBN: 978-989856547-1.
124. B. Jan, B. Montrucchio, C. S. Ragusa, F. G. Khan, and O. U. Khan, "Parallel butterfly sorting algorithm on gpu," in IASTED Multiconferences - Proceedings of the IASTED International Conference on Parallel and Distributed Computing and Networks, PDCN 2013, (Calgary), pp. 544–551, ACTA Press, 2013, DOI: 10.2316/P.2013.795-026.
125. Carlini, P. Rosa, B. Montrucchio, I. Cenci, F. Claudio, G. Luongo, J. Spigaroli, and G. Gini, "Defining new structural and mobile support to improve hospital facilities access and usability," LECTURE NOTES IN COMPUTER SCIENCE, vol. 7789 LNCS, pp. 55–71, 2013, DOI: 10.1007/978-3-642-39088-3_4.
126. Montrucchio, M. Rebaudengo, A. David Velasco, "Software-implemented fault injection in operating system kernel mutex data structure" 2014 IEEE 5th Latin American Symposium on Circuits and Systems, LASCAS 2014 - Conference Proceedings, pp.1-6, Santiago, Chile, 25-28 febbraio 2014, DOI: 10.1109/LASCAS.2014.6820257
127. O. Khan, B. Jan, C. Ragusa, A. Rahim, F. Khan, B. Montrucchio (2014) "Optimization of a Multi-Dimensional FFT Library for Accelerating Magnetostatic Field Computations". In: 10th European Conference on Magnetic Sensors and Actuators, Vienna, Austria, July 6-9, 2014. p. 250
128. B. Montrucchio, M. Rebaudengo, A. David Velasco (2014), "Fault Injection in the Process Descriptor of a Unix-based Operating System", IEEE International Symposium on Defect and Fault Tolerance in VLSI and Nanotechnology Systems, Amsterdam (NL), 1-3 October 2014. pp. 281-286, DOI:10.1109/DFT.2014.6962080
129. Ferrero, R., Montrucchio, B., David, L., Ebrahim, K., Graglia, L., Iovino, G.D.D., Ribero, M., "A comparison of graphics processor architectures for RFID simulation", 2014, Proceedings - 2014 International Conference on Network-Based Information Systems, NBIS 2014, doi: 10.1109/NBIS.2014.37, Italy
130. Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., Zhang, L., "A novel simulator for RFID reader-to-reader anti-collision protocols" (2015) 2015 5th International EURASIP Workshop on RFID Technology, EURFID 2015, doi: 10.1109/EURFID.2015.7332386
131. Velasco, A., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "On the design of distributed air quality monitoring systems", (2015) AIP Conference Proceedings, doi: 10.1063/1.4938963
132. Cammarano, S., Lacidogna, G., Montrucchio, B., Carpinteri, A., "Experimental evaluation of the warping deformation in thin-walled open section profiles" (2015) Conference Proceedings of the Society for Experimental Mechanics Series, 3B, pp. 231-242., doi: 10.1007/978-3-319-06986-9_26
133. Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., "Experimental investigation on the interference between UHF RFID and GSM", (2015) 2015 5th International EURASIP Workshop on RFID Technology, EURFID 2015, art. no. 7332399, pp. 140-143., doi: 10.1109/EURFID.2015.7332399
134. Lacidogna, G., Montrucchio, B., Borla, O., Carpinteri, "A. High-Frequency Resonance Phenomena in Materials Subjected to Mechanical Stress", (2015) Conference Proceedings of the Society for Experimental Mechanics Series, 66 (VOLUME 5), pp. 211-220, doi: 10.1007/978-3-319-06977-7_28
135. Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., Velasco, A., Benkhelifa, I., "On gait recognition with smartphone accelerometer", (2015) Proceedings - 2015 4th Mediterranean Conference on Embedded Computing, MECO 2015 - Including ECyPS 2015, BioEMIS 2015, BioICT 2015, MECO-Student Challenge 2015, art. no. 7181946, pp. 368-373, doi: 10.1109/MECO.2015.7181946
136. Ferrero, R., Gandino, F., Hemmatpour, M., Montrucchio, B., Rebaudengo, M., "Exploiting accelerometers to estimate displacement", (2016) 2016 5th Mediterranean Conference on Embedded Computing, MECO 2016 - Including ECyPS 2016, BIOENG.MED 2016, MECO: Student Challenge 2016, art. no. 7525741, pp. 206-210. doi: 10.1109/MECO.2016.7525741
137. Hemmatpour, Masoud; Ferrero, Renato; Montrucchio, Bartolomeo; Rebaudengo, Maurizio, "Analysis and optimization of Synchronization Algorithms for Multicore Architectures", 2016, 1st International Workshop on Resilience in Nanoelectronics Systems (RENS'16) Tallin, Estonia,

September 28-29 2016.

138. Hemmatpour, M., Montrucchio, B., Rebaudengo, M., Sadoghi, M. Kanzi, "A distributed, in-memory key-value store", 2016, Proceedings of the Posters and Demos Session of the ACM/IFIP/USENIX Middleware 2016 Conference, Middleware Posters and Demos 2016, pp. 3-4. doi: 10.1145/3007592.3007594
139. Hemmatpour, M., Ferrero, R., Montrucchio, B., Rebaudengo, M., "A neural network model based on co-occurrence matrix for fall prediction", 2016, Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST, 192, pp. 241-248, doi: 10.1007/978-3-319-58877-3_32
140. Hemmatpour, M., Ferrero, R., Montrucchio, B., Rebaudengo, M., "Eigenwalk: A novel feature for walk classification and fall prediction", 2017, BODYNETS 2016 - 11th International Conference on Body Area Networks, doi: 10.4108/eai.15-12-2016.2267645
141. Hemmatpour, M., Ferrero, R., Montrucchio, B., Rebaudengo, M., "A baseline walking dataset exploiting accelerometer and gyroscope for fall prediction and prevention systems", 2017 BODYNETS 2016 - 11th International Conference on Body Area Networks, doi: 10.4108/eai.15-12-2016.2267646
142. Carpinteri, A.; Lacidogna, G.; Tulliani, J.M.; Montrucchio, B.; Invernizzi S., "Energy emissions from resonant cylindrical samples subjected to ultrasound vibrations", pp. 1-2., 17th International Conference on Experimental Mechanics (ICEM 17) July 3-7, 2016, Rhodes, Greece.
143. Lacidogna, G., Invernizzi, S., Montrucchio, B., Borla, O., Carpinteri, A., "Analysis of high-frequency vibrational modes through laser pulses", Conference Proceedings of the Society for Experimental Mechanics Series, 9, pp. 93-104. doi: 10.1007/978-3-319-21765-9_13
144. Carpinteri, A.; Lacidogna, G.; Montrucchio, B.; Piana, G.; Bassani, A., "Terahertz vibrations in compressed solids and biological materials", 2016 pp. 1-2, 17th International Conference on Experimental Mechanics (ICEM 17) July 3-7, 2016, Rhodes, Greece.
145. Hemmatpour, M., Karimshoushtari, M., Ferrero, R., Montrucchio, B., Rebaudengo, M., Novara, C., "Polynomial classification model for real-time fall prediction system", 2017, Proceedings - International Computer Software and Applications Conference, 1, art. no. 8029725, pp. 973-978. doi: 10.1109/COMPSAC.2017.189
146. Velasco, A.D., Montrucchio, B., Rebaudengo, M., "TMR technique for mutex kernel data structures", LATS 2017 - 18th IEEE Latin-American Test Symposium, doi: 10.1109/LATW.2017.7906745
147. Invernizzi, S., Lacidogna, G., Montrucchio, B., Accornero, F., Carpinteri, A., "Experimental analysis of ultrasound vibrations induced in solids", 2017, pp. 65-66, ICF 2017, 14th International Conference on Fracture, vol. 2
148. Hemmatpour, M., Ghazivakili, M., Montrucchio, B., Rebaudengo, M., "DIIG: A Distributed Industrial IoT Gateway", 2017, Proceedings - International Computer Software and Applications Conference, 1, art. no. 8029694, pp. 755-759. doi: 10.1109/COMPSAC.2017.110
149. Velasco, A.D., Montrucchio, B., Rebaudengo, M., "Hardening Approach for the Scheduler's Kernel data Structures", 2017, pp. 32-35 in ARCS 2017: 30th International Conference on Architecture of Computing Systems, ISBN: 978-3-8007-4395-7
150. Ferrero, R., Gandino, F., Hemmatpour, M., Montrucchio, B., Rebaudengo, M., "Urban dust monitoring from ground level to last floor", 2018, 10th International Conference on Mobile Computing and Ubiquitous Network, ISBN: 978-4907622631-0 doi:10.23919/ICMU.2017.8330072
151. Giusto, E., Ferrero, R., Gandino, F., Montrucchio, B., Rebaudengo, M., Zhang, M., "Particulate Matter Monitoring in Mixed Indoor/Outdoor Industrial Applications: A Case Study", IEEE ETFA, 2-4 sept 2018, ISSN:19460740, doi: 10.1109/ETFA.2018.8502644
152. Giusto, E., Gandino, F., Greco, M.L., Rebaudengo, M., Montrucchio, B., "A dense RFID network for flexible Thermal Monitoring", 2018 6th International EURASIP Workshop on RFID Technology, EURFID 2018, ISBN: 978-153865938-0, doi: 10.1109/EURFID.2018.8611649
153. Ghazi Vakili, M., Demartini, C., Guerrero, M., Montrucchio, B., "Open Source Fog Architecture for Industrial IoT Automation Based on Industrial Protocols", 2019, IEEE

COMPSAC, pp. 570-578, ISBN: 978-1-7281-2607-4, doi:10.1109/COMPSAC.2019.0088

154. Sorath, A., Canu, M.G., Montrucchio, B., "Producing green computing images to optimize power consumption in OLED-based displays", 2019, IEEE COMPSAC, pp. 529-534, ISBN: 978-1-7281-2607-4, doi: 10.1109/COMPSAC.2019.00081

International Databases

155. Scanzio, S., Ghazi Vakili, M., Cena, G., Demartini, C.G. Montrucchio, B., Valenzano, A., Zunino, C., "From Real Data of Wireless Sensor Networks based on TSCH to a Prediction of Reliability, Power Consumption and Latency (dataset)", IEEE DataPort - Open Source, doi: 10.21227/fg62-bp39, IEEE, 2020.
156. Marceddu, A.C., Montrucchio, B., "FMR-DB", IEEE DataPort – Open Source, doi: 10.21227/wg71-v415, IEEE, 2020.
157. Montrucchio, B., Giusto, E., Ghazi Vakili, M., Quer, S., Ferrero, R., Fornaro, C., "A Densely-Deployed, High Sampling Rate, Open-Source Air Pollution Monitoring WSN", IEEE DataPort – Open Source, doi: 10.21227/m4pb-g538, IEEE, 2020.

Italian Journals

158. Sanna and B. Montrucchio, "Ambienti Virtuali 3D", Computer Gazette, Anno XVI, No. 1, pp. 62-63, 2001, ISSN 1123-4253.

Italian Conferences

159. A. Sanna, B. Montrucchio, C. Zunino e P. Montuschi, "La realtà virtuale e la visualizzazione scientifica: strumenti e tecniche per migliorare la comprensione dei dati", Virtuality 2001, Torino, 29-31 ottobre 2001.
160. M. Pissardo, Y. Carpegna, B. Montrucchio, A. Sanna, C. Demartini, "Una architettura basata su grid computing per la resa su richiesta dei filmati", Virtuality 2003, Torino, ottobre 2003.

Didactic book (in Italian)

161. A. Sanna, B. Montrucchio, P. Montuschi, and M. Maggiore, "Informatica grafica e multimedialità", Celid, Torino, ISBN 88-7661-415-X, 2000.