

Curriculum Vitae et Studiorum

Sebastiano Battiato

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Status: Married (since 1999). He has 2 daughters.

Short Biography

Sebastiano Battiato was born in Catania, Italy, in 1972. He received the degree in Computer Science (summa cum laude) in 1995 at Catania University and his Ph.D in Computer Science and Applied Mathematics in 1999 in Naples. From 1999 to 2003 he has led the “Imaging” team c/o STMicroelectronics in Catania. He joined the Department of Mathematics and Computer Science of the University of Catania as Assistant Professor in 2004 and became Associate Professor in the same department in 2011. His research interests include image enhancement and processing, image coding and camera imaging technology. He has edited 4 books and published more than 120 papers in international journals, conference proceedings and book chapters. He is co-inventor of about 15 international patents. He is reviewer for several international journals and he has been regularly a member of numerous international conference committees. He has participated in many international and national research projects. Chair of several international events (ECCV2012, ICIAP 2011, ACM MiFor 2010, SPIE EI Digital Photography 2011, etc.). He is an Associate Editor of the SPIE Journal of Electronic Imaging (Specialty: digital photography and image compression) and of IEEE Transactions on Circuits and System for Video Technology. Guest editor of the following special issues: "Emerging Methods for Color Image and Video Quality Enhancement" published on EURASIP Journal on Image and video Processing (2010) and "Multimedia in Forensics, Security and Intelligence" to be published on IEEE Multimedia Magazine. He is director (and co-founder) of ICVSS (International Computer Vision Summer School). He is a Senior Member of the IEEE.

Professional Activities and Management

Teaching

- **Multimedia** - University of Catania- A.A. 2004/2005, A.A.2005/2006, A.A. 2006/2007, A.A. 2007/2008, A.A. 2008/2009, A.A. 2009/2010, A.A. 2010/2011, A.A. 2011/2012;
- **Computer Vision** - University of Catania - A.A. 2006/2007, A.A. 2007/2008, A.A. 2008/2009, A.A. 2009/2010, A.A. 2010/2011, A.A. 2011/2012;
- **Computer Forensics** - University of Catania, A.A. 2010/2011, A.A. 2011/2012;
- **Video Processing** - University of Catania - A.A. 2005/2006;
- **Web Programming** - University of Catania- A.A.2005/2006; A.A. 2006/2007.
- **Analisi, progettazioni e simulazioni didattiche di Informatica IV** – University of Catania - A.A 2000/2001;
- **Programmazione 1** - University of Catania - A.A. 2001/2002;
- **Programmazione 2** - University of Catania - A.A. 2003/2004, A.A. 2004/2005, A.A. 2005/2006
- **Analisi, progettazioni e simulazioni didattiche di Informatica I** – University of Catania - A.A 2002/2003;
- **Multimedialità e Didattica** - University of Catania- A.A 2003/2004, A.A. 2004/2005, A.A.2005/2006;

Tutorship

- Advisor of more than 50 Master's Thesis – Computer Science - University of Catania
- Scientific Advisor of Dr. Filippo Stanco (December 2005 – September 2006) Post Doc position on Digital Image Restoration;
- Scientific advisor of Ing. Giovanni Puglisi (Ph.D in Computer Science). Main reseach topic: Video Stabilization.
- Scientific advisor of Ing. Francesco Rundo (Ph.D. in Applied Mathematics). Main research topic: Soft Computing.
- Scientific Advisor of Rosetta Rizzo and Tony Meccio (Ph.D student in Computer Science). Main topic: Image Generation Pipeline for Mobile Imaging Devices.
- Scientific Advisor of Giuseppe Messina (Ph.D student in Computer Science). Main topic: Image Forensics.
- Scientific Advisor of Arcangelo Ranieri Bruna (Ph.D. student in Applied Mathematics)- Main Research topics: Image Forensics.
- Scientific Advisor of Enrico Messina and Daniele Ravì (Ph.D student in Computer Science). Main topic: Image Generation Pipeline for Mobile Imaging Devices.
- Scientific Advisor of Fausto Galvan (Ph.D student in Computer Science). Main topic: Image Forensics.

Conferences/Invited Session

- Co-Chair (Video Proceedings) **ECCV 2012**– 2012 Firenze (Italy);
- Program Chair (Computational Colour) CGIV2012 - 6th **European Conference on Colour in Graphics, Imaging, and Vision** - Amsterdam (The Netherlands)- 2012;
- Program Chair (Image Formation and Preprocessing) VISAPP 2012 – **International Conference on Computer Vision Theory and Applications** – Rome (Italy) – February 2012;
- Program Chair of **ICIAP 2011 – International Conference on Image Analysis and Processing** - Ravenna (Italy), September 2011;

- Co-chair with F. Imai, F. Xiao, N. Sampat, J. De Carlo of *Digital Photography VII- VIII – IS&T/SPIE Electronic Imaging 2011-2012*- San Francisco, USA, 2011-2012;
- Co-chair together with S. Emmanuel, A. Ulges and M. Worring of Workshop *ACM Multimedia in Forensics, and Intelligence - MiFor2011* – USA, 2011.
- Co-chair together with S. Emmanuel, A. Ulges and M. Worring of Workshop *ACM Multimedia in Forensics, Security and Intelligence - MiFor2010* – Florence (Italy), 2010.
- Co-chair of “*Image and Video Forensics*”, SIMAI 2010, Cagliari (Italy) –2010;
- Co-chair of “*Image Analysis Methods for Cultural Heritage*”, SIMAI 2010, Cagliari (Italy) – 2010;
- Workshop “*Medical and Industrial Imaging*” , June 2008 Catania (Italy);
- Co-chair of “*Image Analysis Methods for Cultural Heritage*”, SIMAI 2008, Roma (Italy) –2008;
- Co-chair of “*Image Analysis Methods for Industrial Applications*” SIMAI 2006, Ragusa (Italy) , 2006;
- Co-chair and local organizer of 4° Convegno EUROGRAPHICS Italian Chapter (EG_IT) (<http://www.dmi.unict.it/~eg06>), February 2006;

International School

Director (together with Prof. Roberto Cipolla, Univ. di Cambridge, UK) of ICVSS, International Computer Vision Summer School (www.dmi.unict.it/icvss):

- *Detection, Recognition and Segmentation in Context*, Ragusa, Italy – July 2007;
- *Reconstruction and Recognition*, Ragusa, Italy – July 2008;
- *Machine Learning for Computer Vision*, Ragusa, Italy – July 2009;
- *Registration and Video Analysis*, Ragusa, Italy – July 2010;
- *Registration, Recognition and Reconstruction in Images and Video*, Ragusa, Italy – July 2011.
- *3R's of Computer Vision: Registration, Recognition and Reconstruction*, Ragusa, Italy – July 2012.

National School

Director (together with Prof. Giovanni Gallo and Filippo Stanco) of Italian Ph.D. school “*La Visione delle Macchine*” - GIRPR – Catania November 2010 (<http://iplab.dmi.unict.it/vismac>);

International Program Committee (IPC)

- International Workshop on *Multimedia for Cultural Heritage* (MM4CH 2011) – Modena, Italy, 2011;
- ECV – IEEE Workshop on *Embedded Computer Vision* (Colorado Springs, USA 2011), in conjunction with CVPR 2011;
- IMAGAPP – International Conference on *Imaging Theory and Applications* (Algarve, Portugal 2011);
- Special session on *Video and Image Analysis* (VIA) at the 3rd Asian Conference on Intelligent Information and Database Systems (ACIIDS), 2011;
- EUVIP – European Workshop on *Visual Information Processing* (Paris, France 2011);
- International Workshop on *Content Protection & Forensics* (CPAF 2011) – Satellite Event of ICME 2011 (Barcelona, Spain);
- 3rd Workshop on *Computational Intelligence for Multimedia Visual Information Processing* (CIMVIP'2011) hosted by ISDA 2011;
- Special Track on Low-Level Color Image Processing - 6th International Symposium on Visual Computing (ISVC10), 2010;

- Workshop on Soft Computing in Image Processing and Computer Vision – SCIPCV 2010-2011;
 - IS&T/SPIE Electronic Imaging – Digital Photography 2010;
 - ICISP – International Conference on Image and Signal Processing (2010 Trois-Rivières, Québec, Canada – 2012 Morocco) – Papers published on Lecture Notes in Computer Science (Springer);
 - AVSS’09 – 6th IEEE International Conference on *Advanced Video and Signal Based Surveillance*;
 - ACM SCCG (*Spring Conference on Computer Graphic*), Budmerice (SK) 2005, 2006, 2007, 2008, 2009;
 - International Workshop on *Computer Graphics and Geometric Modeling*– Workshop of ICCS *International Conference on Computational Science*(2007 Beijing, China – 2008, Krakow, Poland, – 2009 Louisiana,USA) – Papers published on *Lecture Notes in Computer Science* (Springer) – (Vol. 4488, 2007 - Vol 5102, 2008 - Vol. 5544, 2009);
 - IAPR “*Color Computational Color Imaging Workshop Imaging*” –
 - First Edition Satellite Workshop of IEEE ICIAP *International Conference on Image Analysis and Processing* 2007 – Modena (Italy), 2007;
 - Second Edition – Saint Etienne (France), March 2009 ;
 - Third Edition – Milan (Italy), April 2011;
 - Track *Scalable Pattern Recognition* of International Conference *Mexican Computer Science Society*, 2007;
 - VISAPP – International Conference on *Computer Vision Theory and Applications* – (Madeira, Portugal 2008 – Lisboa, Portugal 2009 – Angers, France 2010 – Algarve, Portugal 2011);
- Member of Editorial Board (Reviewer) of:
- IEEE International Conference on Computer Science and Information Technology (ICCSIT 2011);
 - European Signal Processing Conference EUSIPCO 2010;
 - IAPR ICPR 2010 – International Conference on Pattern Recognition;
 - AVSS’10 – 7th IEEE International Conference on *Advanced Video and Signal Based Surveillance*;
 - IEEE ISCS’10 - International Symposium on Circuits and Systems;
 - ACM Multimedia 2009 – Workshop on Multimedia Forensics;
 - IEEE ISCE –International Symposium on Consumer Electronics (2009, 2010);
 - SIGGRAPH 2009-2011;
 - *Eurographics* 2008, 2010;
 - 3DTV- CON 2009, 2010, 2011: *The True Vision - Capture, Transmission, and Display of 3D Video* International Conference;
 - ICCSA 2008 - International Conference on Computational Science and Its Application;
 - *Eurographics* 2008;
 - IEEE ICME 08 – International Conference on *Multimedia ed Expo*;
 - WSCG (International Conference in Central Europe on *Computer Graphics, Visualization and Computer Vision*) 2004-2006-2007-2008-2009-2010;
 - IEEE ICIP 2005, 2008, 2009, 2010, 2011 - International Conference on *Image Processing*;
 - IEEE ISCC’02 – International Symposium on *Computer and Communication*;
 - Security Track@ACM SAC 2004.

National Program Committee

- Conference *Eurographics Italian Chapter* (Catania – 2006, Trento - 2007)

Editorial Activities

- Member of the *Editorial Board of the Transactions on Circuits and System for Video Technology* published by IEEE (since 2011).
- Member of *Editorial Board of Journal of Electronic Imaging* (JEI) published by SPIE/IS&T (since 2007).
- Member of *Editorial Board of Recent Patents on Electrical Engineering* published by *Bentham Science Publisher* (since 2008).
- Member of *Editorial Board of e Open Virtual Reality Journal* published by *Bentham Science Publisher* (since 2008).
- *Invite Reviewer* for the following journals:
 - IEEE Transactions on Image Processing (since 2003) ;
 - EURASIP Journal of Applied Signal Processing (since 2003);
 - IASTED Journal of Modelling and Simulation (since 2003);
 - IST/SPIE Journal of Electronic Imaging (since 2004);
 - IEE Proceedings, Vision, Image & Signal Processing (since 2004);
 - IST/SPIE Optical Engineering (since 2004);
 - IEEE Signal Processing Letters (since 2004);
 - IEEE Transactions on Circuits and Systems for VideoTechnology (since 2004);
 - IEE Electronic Letters (since 2004);
 - ELSEVIER, Image Vision and Computing Journal (since 2005);
 - EUROGRAPHICS, Computer Graphics Forum (since 2005);
 - IEEE Transactions on Visualization and Computer Graphics (since 2006);
 - International Journal of Imaging Systems and Technology; Special Issue on "Applied Color Image Processing" (2007);
 - ELSEVIER Signal Processing: Image Communication; Special Issue on *Semantic Analysis for Interactive Multimedia* – (2007);
 - IEEE Transactions on Systems, Man, and Cybernetics--Part B: Cybernetics (since 2009);
 - Springer - Journal of Mathematical Imaging and Vision (since 2009);
 - IEEE Transactions on Multimedia (since 2009);
 - IS&T/SPIE Journal of Imaging Science and Technology (since 2010);
 - Springer – Pattern Analysis and Application (since 2010).
 - IEEE Transactions on Broadcasting (since 2010);
 - IEEE Transactions on Information Forensics and Security (since 2010);
 - Springer Signal Image and Video Processing (since March 2011);
 - IEEE Journal of Selected topics in Signal Processing (since February 2011).
- Invite Reviewer (1 chapter):
Single-Sensor Imaging: Methods and Applications for Digital Cameras, Ed. R. Lukac – CRC Press (2008).
- Reviewer of some editorial proposals for *John Wiley & Sons* (2009), and *Elsevier* (2011).
- He is **Senior Member** of IEEE (The *Institute of Electrical and Electronics Engineers*) since 2006;
- He is Member of IAPR-IC (*International Association Pattern Recognition – Italian Chapter*);

Management

- Scientific management of IPlab@CT, Image Processing Lab (www.dmi.unict.it/~iplab) at Computer Science Department, University of Catania.
- He is a member (since 2007) of the Technical Committee of a joint research lab between STMicroelectronics and IPLab.
- He has worked in STMicroelectronics (Catania) -AST (Advanced System Technology) where he lead a research group in the field of *Digital Still Camera & Multimedia Innovation*.

Scientific Cooperations

University of Catania (G. Gallo, D. Cantone, D. Catalano, G. Bella, S. Riccobene, F. Stanco, G. Cincotti, A. Pulvirenti, G. Giuffrida), STMicroelectronics (M. Mancuso, A. Bruna, A. Castorina, G. Messina, A. Buemi, M. Guarnera, A. Capra, A. Vitali), University of Cambridge (UK) (R. Cipolla), University of Palermo (E. Ardizzone, M. La Cascia), University of Milano Bicocca (R. Schettini, F. Gasparini), a WPI University (USA) (M. Hofri), Queen Mary University of London (UK) (A. Cavallaro), Aalborg University (DK) (S. Livatino), IBM Watson Research Center (USA) (R. Gennaro), Università of Calabria (P. Pantano, E. Bilotta), Epson Ltd, Canada (R. Lukac), Imperial College (UK) (C. Sismeiro), ITWM Fraunhofer Institute (D) (J. Orlik, A. Heiko, A. Zemitis), Hong Kong Polytechnic University (HK) (L. Zhang), Canon Development America (USA) (F. Imai), University of Amsterdam (N) (M. Worring), University of Saint Etienne (France) (A. Tremeau)

Project Evaluation

- *Research Promotion Foundation (RPF) of Cyprus* - PENEK program – 2009.
- *Netherlands Organisation for Scientific Research (NWO)* - *NWO Physical Sciences* – 2009.
- *FinPiemonte* – Poli di Innovazione 2010/2011/2012.
- *Ministro per lo Sviluppo Economico (Italian Minister)* – 2009.

Research Projects

- Research contract with AST Catania Lab of STMicroelectronics on “Resolution Enhancement” (2004).
- Research contract with AST Catania Lab di STMicroelectronics on “*Raster_to_SVG*”. (2005).
- Research contract with *MagicMosaics* (Victoria - Canada), www.imagemosaics.com on PIM (*Puzzle Image Mosaic*).
- Research project entitled: “*Sviluppo di materiali e tecnologie per una nuova gamma di Artroprotesi di ginocchio ad elevata flessibilità applicativa*” – FAR – L.297. Involved partners are LIMA (Ud), Dipartimento di Ingegneria Industriale e Meccanica, il Dipartimento di Matematica ed Informatica (University of Catania), Fraunhofer Institut für Techno- und Wirtschaftsmathematik of Kaiserslautern (D) . Specific task of our group has regarded the 3D Bone Segmentation starting from CT data. (July 2005 – September 2007).
- Research contract with AST Catania Lab di STMicroelectronics on “*Video Stabilization*” (July 2006 – July 2008).
- Research contract with AST Catania Lab di STMicroelectronics on “*Image Content Analysis*” (May 2010 – May 2011).

- Research Contract with INFORM entitled “DIAGNOSTICA PER IMMAGINI-DIMAGO”, (January 2007 - December 2007).
- Research project PANORAMA Ultrawide Context Aware Imaging (Programma ENIAC program) (Durata 36 months star date:April 2012) in partnership with STM, Bosch, Philips and other European partners.

Scientific Research

Main topics

- **Image (and Video) Enhancement for Imaging Devices**
- **Advanced Signal Coding and Processing**
- **Scene Recognition**
- **Medical Imaging (Bone Classification/Segmentation, Microarray Imaging)**
- **Computer Graphics (Raster ToVector, Artificial Mosaics)**
- **Image and Video Forensics**

Publications and Patents

Ph. D. Thesis

Metodi Statistici ed Entropici per l'Apprendimento e l'Analisi Automatica di Immagini Digitali (Statistical and Entropy based methods for unsupervised learning and analysis of digital images).
Ph. D. in Applied Mathematic and Computer Science. Tutor: Prof. A. Maugeri. Scientific Advisor: Prof. Giovanni Gallo. University of Naples (Italy), 1999.

Books

- [CB1] ***Computer Vision: Recognition, Registration and Reconstruction*** - Eds. R. Cipolla, S. Battiato, G.M. Farinella - *Studies in Computational Intelligence* – Springer-Verlag press, ISBN: 978-3-642-12847-9 - Vol. 285, 2010.
- [CB2] ***Image Processing for Embedded Devices*** – Eds. S. Battiato, A.R. Bruna, G. Messina, G. Puglisi – ISSN: 1879-7458, 2010 - *Applied Digital Imaging* ebook series, ISBN: 978-1-60805-170-0 – Bentham Science Publisher, 2010.
- [CB3] ***Digital Imaging for Cultural Heritage Preservation: Analysis, Restoration and Reconstruction of Ancient Artworks*** - Eds. F. Stanco, S. Battiato, G. Gallo - *CRC Press/Taylor & Francis - Digital Imaging and Computer Vision Book series*, ISBN: 1439821739, 2011.
- [CB4] ***Computer Vision and Machine Learning for Image and Video Analysis*** - Eds. R. Cipolla, S. Battiato, G.M. Farinella - *Studies in Computational Intelligence* – Springer-Verlag press, 2011 (to appear);

Book's chapter (International)

- [IB1] S. Battiato, G. Gallo - ***Multi-resolution Clustering of Texture Images*** – Chapter in *Texture Analysis in Machine Vision*, Ed. M. Pietikäinen - Series in Machine Perception and Artificial Intelligence - World Scientific, Vol. 40, pp.41-51 - ISBN 981-02-4373-1, October 2000;

- [IB2] S. Battiato, A. Castorina, G. Messina - **Exposure Correction for Imaging Devices: an Overview** – Chapter in *Single-Sensor Imaging: Methods and Applications for Digital Cameras*, Ed. R. Lukac – CRC Press - ISBN 978-1-4200-5452-1, September 2008;
- [IB3] S. Battiato, R. Lukac - **Color-Mapped Imaging** - In *Encyclopedia of Multimedia*, 2nd edition, (ed.) B. Furth – pp.83-88 - Springer-Verlag – ISBN: 978-0-387-74724-8, October 2008. Including short articles: *Dithering* (pp.198-199), *GIF Format* (pp.272-273), *Median Cut Algorithm* (pp.417-418), *Reindexing Techniques* (pp.768-769).
- [IB4] S. Battiato, R. Lukac - **Video Stabilization Techniques** - In *Encyclopedia of Multimedia*, 2nd edition, (ed.) B. Furth – pp.941-945 - Springer-Verlag - ISBN: 978-0-387-74724-8, October 2008. Including short articles: *Camera Motions* (pp.57-58), *Exposure Values* (pp.217-218), *Motion Blurring* (pp. 428-429).
- [IB5] G.M. Farinella, S. Battiato - **Representation Models and Machine Learning Techniques for Scene Classification** – Chapter in *Pattern Recognition, Machine Vision, Principles and Applications*, Ed. P. S.P. Wang- ISBN 978-87-92329-36-3 - River publisher, 2010;
- [IB6] S. Battiato, G. Puglisi, A. R. Bruna, A. Capra, M. Guarnera – **Fundamentals and HW/SW Partitioning** – Chapter in *Image Processing for Embedded Devices* – Ed. S. Battiato, A.R. Bruna, G. Messina, G. Puglisi – *Applied Digital Imaging* ebook series – Bentham Science Publisher – ISBN: 978-1-60805-170-0, 2010.
- [IB7] S. Battiato, A. Castorina, G. Messina – **Beyond Embedded Devices** - Chapter in *Image Processing for Embedded Devices* – Ed. S. Battiato, A.R. Bruna, G. Messina, G. Puglisi – *Applied Digital Imaging* ebook series – Bentham Science Publisher - ISBN: 978-1-60805-170-0, 2010.
- [IB8] S. Battiato, G. Di Blasi, G. Gallo, G. Puglisi - **Digital Reproduction of Ancient Mosaics** – Chapter in *Digital Imaging for Cultural Heritage Preservation: Analysis, Restoration and Reconstruction of Ancient Artworks* - Eds. F. Stanco, S. Battiato, G. Gallo - CRC Press/Taylor & Francis - Digital Imaging and Computer Vision Book series – ISBN: 1439821739 - 2011.
- [IB9] S. Battiato - **Single-Sensor Imaging Devices: an Overview** - Chapter in *Handbook of Digital Imaging*, edited by Michael Kriss – John Wiley & Sons Ltd (2011 - to appear);
- [IB10] S. Battiato, G. M. Farinella, M. Guarnera, G. Messina, D. Ravì – **A Cluster-Based Boosting Strategy for Red-Eyes Removal** – Chapter in *Modern Image Processing Algorithms Employing Computational Intelligence Techniques* - Patrick Siarry, Amitava Chatterjee Eds. – Springer (2011 - to appear).

Book's chapter (National)

- [NB1] S. Battiato, G. Messina, R. Rizzo - **Image Forensics - Contraffazione Digitale e Identificazione della Camera di Acquisizione: Status e Prospettive** - Chapter in *IISFA Memberbook 2009 DIGITAL FORENSICS* – Eds. G. Costabile, A. Attanasio – Experta, Italy 2009;
- [NB2] S. Battiato, G.M. Farinella, G. Messina, G. Puglisi – **Digital Video Forensics: Status e Prospettive** – Chapter in *IISFA Memberbook 2010 DIGITAL FORENSICS* – Eds. G. Costabile, A. Attanasio – Experta, Italy, 2010.
- [NB3] S. Battiato, G.M. Farinella, G. Puglisi – **Image/Video Forensics: Casi di Studio** - Chapter in *IISFA Memberbook 2011 DIGITAL FORENSICS* - Eds. G. Costabile, A. Attanasio - Experta, Italy 2011. (in press)

Co-edited Proceedings or Special Issues

- [C1] G. Gallo, S. Battiato, F. Stanco – Proceedings of *Fourth Conference Eurographics Italian Chapter* – ISBN 3-905673-58-4 - Catania (Italy), February 2006.
- [C2] L. Zhang, S. Battiato, R. Schettini, Z. Wang, K.R. Rao - “*Emerging Methods for Color Image and Video Quality Enhancement*” - EURASIP Journal on Image and Video Processing – 2010.
- [C3] S. Battiato, S. Emmanuel, A. Ulges, M.Worring – Proceedings of the second *ACM International Workshop on Multimedia in Forensics, Security and Intelligence* (MiFor 2010) – Satellite Event of ACM Multimedia 2010 - October 2010.
- [C4] S. Battiato, S. Emmanuel, A. Ulges, M.Worring – Proceedings of the third *ACM International Workshop on Multimedia in Forensics and Intelligence* (MiFor 2011) – Satellite Event of ACM Multimedia 2011 – November 2011.
- [C5] S. Battiato, B. Rodricks, N.Sampat – Proceedings of *Digital Photography VIII* (Spie Vol.8299) – SPIE Electronic Imaging 2012.
- [C6] S. Battiato, S. Emmanuel, A. Ulges, M.Worring –*Multimedia in Forensics, Security and Intelligence* - IEEE Multimedia Magazine (2012 - In press).

Teaching books (in italian)

- [T1] S. Battiato, F. Stanco - *Fondamenti di Image Processing – Guida teorico/pratica per l’elaborazione e la codifica di immagini digitali* - EdiArgo 2006 – ISBN 88-88659-49-8 – Ragusa (Italy), October 2006.
- [T2] R.C. Gonzalez, R.E. Woods - *Digital Image Processing* – Third Edition, Pearson (2007). Italian Title : *Elaborazione delle Immagini Digitali* - Terza Edizione, Pearson Paravia Bruno Mondadori (ISBN 978-88-7192505-6) - Ottobre 2008.by S. Battiato, F. Stanco.

International Journals

- [IJ1] S. Battiato, A. Castorina - *Watermarking for Images Based on Color Manipulation and Block Subdivision* - Image Processing&Communications, An International Journal - Vol. 6, No.1-2, pp. 29-38, 2000;
- [IJ2] S. Battiato, M. Mancuso – *An Introduction to the Digital Still Camera Technology* – ST Journal of System Research - Special Issue on *Image Processing for Digital Still Camera*, Vol. 2, No.2, December 2001;
- [IJ3] S. Battiato - *Psychovisual and Statistical Optimization of Quantization Tables for DCT Compression Engines* – ST Journal of System Research - Special Issue on *Image Processing for Digital Still Camera*, Vol. 2, No.2, December 2001;
- [IJ4] S. Battiato, A. Castorina - *High Dynamic Range Imaging: Overview and Application* – ST Journal of System Research - Special Issue on *Image Processing for Digital Still Camera*, Vol. 2, No.2, December 2001;
- [IJ5] S. Battiato - *Entropy and Gibbs Distribution in Image Processing: an Historical Perspective* – Image Processing&Communications, An International Journal – Vol.7, No. 3-4, pp. 35-50, 2001;
- [IJ6] S. Battiato, G. Gallo, S. Nicotra – *Glyph Representation of Directional Texture Properties* – 10-th International Conference in Central Europe on *Computer Graphics, Visualization and Computer Vision*, WSCG 2002 – Plzen, Czech Republic, February 2002 – Published in *Journal of WSCG*, Vol. 10, No.1-3, pp. 48-54, 2002;
- [IJ7] G. Messina, S. Battiato, M. Mancuso, A. Buemi – *Improving Image Resolution by Adaptive Back-projection Correction Techniques* – IEEE Transactions on *Consumer Electronics* – Vol. 48, Issue 3, pp. 409-416, August 2002 - (ISI Impact Factor: 0,563);

- [IJ8] S. Battiato, A. Buemi, G. Impoco, M. Mancuso – *Jpeg2000 Coded Images Optimisation Using a Content-dependent Approach* - IEEE Transactions on *Consumer Electronics* - Vol. 48, Issue 3, pp. 400-408, August 2002 - (ISI Impact Factor: 0,563);
- [IJ9] S. Battiato, G. Gallo, F. Stanco – *A Locally-Adaptive Zooming Algorithm for Digital Images* – *Image Vision and Computing Journal* – Elsevier Science Inc. - Vol. 20, Issue 11, pp. 805-812, September 2002 - (ISI Impact Factor: 1,029);
- [IJ10] S. Battiato, A. Castorina, M. Mancuso - *High Dynamic Range Imaging for Digital Still Camera: an Overview* – *SPIE Journal of Electronic Imaging* – Vol. 12. Issue 3, pp. 459-469, July 2003 - (ISI Impact Factor: 0,803);
- [IJ11] A. Bosco, K. Findlater, S. Battiato, A. Castorina – *Noise Reduction Filter for Full-Frame Imaging Devices* – IEEE Transactions on *Consumer Electronics* – Vol. 49, Issue 3, pp. 676-682, August 2003 - (ISI Impact Factor: 0,428);
- [IJ12] S. Battiato, A. Castorina, M. Guarnera, P. Vivirito – *A Global Enhancement Pipeline for Low-cost Imaging Devices* – IEEE Transactions on *Consumer Electronics* – Vol. 49, Issue 3, pp. 670-675, August 2003 - (ISI Impact Factor: 0,428);
- [IJ13] S. Battiato, A.R. Bruna, A. Buemi, A. Castorina – *Analysis and Characterization of JPEG2000 Standard for Imaging Devices* – IEEE Transactions on *Consumer Electronics* – Vol. 49, Issue 4, pp. 773-779, November 2003 - (ISI Impact Factor: 0,428);
- [IJ14] G. Messina, A. Castorina, A. Bosco, S. Battiato – *Improving Digital Images by Adaptive Exposure* – *Electronic Engineering Times ASIA* – pp. 39-40, February 2004;
- [IJ15] S. Battiato, A. Bosco, A. Castorina, G. Messina – *Automatic Image Enhancement by Content Dependent Exposure Correction* – *EURASIP Journal on Applied Signal Processing* – Vol. 12, pp. 1849-1860 – 2004 - (ISI Impact Factor: 0,583);
- [IJ16] S. Battiato, G. Gallo, G. Impoco, F. Stanco – *An Efficient Re-indexing Algorithm for Colour-Mapped Images* – IEEE Transactions on *Image Processing* – Vol. 13. No. 11, pp. 1419-1423, November 2004 - (ISI Impact Factor: 2,011);
- [IJ17] F. Naccari, S. Battiato, A. Bruna, A. Capra, A. Castorina - *Natural Scenes Classification for Color Enhancement* – IEEE Transactions on *Consumer Electronics* – Vol. 51, Issue 1, pp. 234-239, February 2005 - (ISI Impact Factor: 0,600);
- [IJ18] G. Messina, E. Ingrà, S. Battiato, G. Di Blasi - *Automatic Conversion Techniques from Data Dependent Triangulation to SVG B-Slides* – *SPIE Electronic Imaging Newsletter* – Vol.16, No. 2, November 2005;
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- [NC2] S. Battiato, G. Di Blasi, G.M. Farinella, G. Gallo - **A Survey of Digital Mosaic Techniques** – In Proceedings of 4^o Conference *Eurographics Italian Chapter* – pp.129-135 - Catania, 22-24 February 2006;
- [NC3] S. Battiato, F. Stanco – **A New Descreening Technique in the Frequency Domain** - In Proceedings of 4^o Conference *Eurographics Italian Chapter* – pp.137-142 - Catania, 22-24 February 2006;
- [NC4] S. Battiato, F. Rundo, F. Stanco - **Color Palette Images Re-indexing by Self Organizing Motor Maps** - In Proceedings of 4^o Conference *Eurographics Italian Chapter* – pp.241-246 - Catania, 22-24 February 2006;
- [NC5] S. Battiato, G.M. Farinella, G. Puglisi – **SVG Vectorization by Statistical Region Merging** - In Proceedings of 4^o Conference *Eurographics Italian Chapter* – pp.15-21 - Catania, 22-24 February 2006;
- [NC6] S. Battiato, F. Greco, S. Nicotra - **Compressed SVG Representation of Raster Images Vectorized by DDT Triangulation** – In Proceedings of 4^o Conference *Eurographics Italian Chapter* – pp.233-239 - Catania, 22-24 February 2006;
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- [NC9] S. Battiato, G. Puglisi, G. Impoco – **Vectorialization of Raster Colour Images** – In Proceedings of II Conferenza Nazionale del Gruppo del Colore - pp. 221-228 Milano, September 2006. Atti Pubblicati sulla *Collana Quaderni di Ottica e Fotonica* – Colore e Colorimetria: Contributi Multidisciplinari - vol. II - No.14 - Centro Editoriale Toscano, 2006;
- [NC10] S. Battiato, G. Puglisi - **Rendering Order Optimization for SVGStat Improvement** – In Proceedings of 5th Conference *Eurographics Italian Chapter 2007* – Trento, February 2007;
- [NC11] S. Battiato, G. Di Blasi, G. Gallo, S. Patti - **Ramses: a Visual Steganographic System** – In Proceedings of 5th Conference *Eurographics Italian Chapter 2007* – Trento, February 2007;
- [NC12] P.A. Bertacchini, E. Bilotta, P. Pantano, S. Battiato, M. Cronin, G. Di Blasi, A. Talarico, A. Tavernise - **Modelling and Animation of Theatrical Greek Masks in an Authoring System** - In Proceedings of 5th Conference *Eurographics Italian Chapter 2007* – Trento, February 2007;
- [NC13] S. Battiato, G. Bilotta, G. Impoco, G. Russo - **Simulazione Strutturale di un Sistema Osso-Protesi del Ginocchio** – In Proceedings of VII Biomaterial Days – Catania, July 2007;
- [NC14] S. Battiato, G. Di Blasi, G. Gallo, A. Milone – **Realizzazione di Mosaici Artificiali in Ambiente 3D** – In Proceedings of V *Convegno AIAR – Associazione Italiana di Archeometria* – Siracusa, February 2008;
- [NC15] G. Barone, S. Battiato, G. Gallo, P. Mazzoleni, G. Puglisi, F. Stanco - **Il Problema del Riconoscimento Automatico delle Caratteristiche Petrografiche in Sezione Sottile di Ceramiche di Interesse Archeologico** In Proceedings of VI *Convegno AIAR – Associazione Italiana di Archeometria* – Pavia, February 2010.
- [NC16] S. Battiato, G. Messina, L. Trupia - **An Improved Benchmarking Dataset for Forgery Detection Strategies** – In Proceedings of Minisymposium *Image and Video Forensics*, SIMAI 2010, Cagliari (Italy) – June 2010 (only Abstract);
- [NC17] S. Battiato, G. M. Farinella, G. C. Guarnera, G. Puglisi - **Advanced Analysis of Image Collections for Digital Investigation: Status and Perspectives** - In Proceedings of Minisymposium *Image and Video Forensics*, SIMAI 2010, Cagliari (Italy) – June 2010 (only Abstract);
- [NC18] S. Battiato, S. Bianco, G. Ciocca, F. Gasparini, G. Puglisi, S. Schettini - **Smart Photo Sticking for Intangible Cultural Heritage** - In Proceedings of Minisymposium *Image Analysis Methods for Cultural Heritage*, SIMAI 2010, Cagliari (Italy) – June 2010 (only Abstract);

Invited talks

- “Algorithms and Techniques for Digital Image Processing” – Associazione Elettrotecnica ed Elettronica Italiana - December 2002 - Aula Magna - Engineering Faculty - Catania.
- “Adaptive Techniques for Image Enhancement: Expected Color Rendition and Data Fusion”, visiting Research c/o Queen Mary University of London - September 2004.
- “Natural Scene Enhancement by Adaptive Color Correction” November 2004, Dipartimento di Linguistica Università of Calabria (Cosenza - Italy).
- Teacher c/o Winter School on Computer Graphic (<http://vcg.isti.cnr.it/EGIT05/>), organized by 'ISTI-CNR of Pisa Italian Chapter, “SVG: A 2D Graphic Standard”.
- “Segmentazione di Immagini Mediche: casi di studio”, Workshop “*Medical and Industrial Imaging*” c/o Dipartimento di Matematica ed Informatica dell’Università di Catania – June 2008

- “Applicazioni dell’Image Processing in ambito investigativo”, Workshop “*Internet fra società, diritto e attività di indagine*” c/o Tribunale di Siracusa, Italy July 2008.
- “Microarray Image Analysis” c/o *International School of Functional Genomics* - Scicli (RG), Italy July 2008.
- *Invited Tutorial* c/o IV Conferenza Nazionale Gruppo del Colore Como, Italy - September 2008 on “Digital Mosaics: Status e Perspective”.
- “Unsupervised Adult Image Classification: Is it really possible?” Workshop “*Fight against online paedophilia – meeting of European experts*” Siracusa, Italy , December 2008.
- “Image Generation Pipeline on Mobile Devices: Status and Perspective” c/o Movidia Ltd - Dublin, January 2009.
- “Unsupervised Forgery Detection” c/o Interpol - Lyon, France – March 2009.
- “Image Forensics: Status e Perspective” c/o Cassa Nazionale Forense IISFA Italian Chapter - Rome – Italy, April 2009.
- “Mobile Image Forensics: Recovery and Analysis” c/o Università di Bologna - IISFA Forum 2009 May 2009.
- “Digital Reproduction of Ancient Mosaics: an Overview” - Facoltà di Conservazione dei Beni Culturali of Ravenna - March 2010;
- “Investigation by Images and Videos” c/o Università degli Studi di Milano - April 2010;
- “Digital Video Stabilization” c/o Dipartimento di Informatica Sistemistica e Telecomunicazioni dell’Università degli studi di Milano Bicocca - April 2010;
- “Digital Investigations on Multimedia Datasets: Image Hashing and Face Recognition” - IISFA Forum 2010 Milano May 2010;
- Image Processing for Embedded Devices: two case studies” - The Hong Kong Polytechnic University, September 2010;
- “Image and Video Forensics: case studies - Cassa Nazionale Forense IISFA Italian Chapter - Rome – Italy, April 2011.
- *Scientific Course Image Processing for Single-Sensor Imaging Devices (SC1048) IS&T/SPIE Electronic Imaging 2012* - San Francisco, USA – January 2012;

Catania, December 2011

Prof. Sebastiano Battiato

