

Gabriele Facciolo

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CONTACT INFORMATION	Centre de Mathématiques et de Leurs Applications, Ecole Normale Supérieure de Cachan, Paris, France	mobile: +33 (0)66875 6214 facciolo [at] cmla [dot] ens-cachan [dot] fr http://dev.ipol.im/~facciolo/
PERSONAL DATA	· Citizenship: Italian. · Marital Status: Married. · Birthdate and Birthplace: September 18th, 1978, Padova, Italia.	
RESEARCH INTERESTS	Computer vision, image processing, computer graphics, mathematical modeling, variational methods, machine learning and pattern recognition.	
EDUCATION	Universitat Pompeu Fabra , Barcelona, Spain · <i>PhD in Information, Communication and Audiovisuals Technologies</i> 2005 - 2011 - Advisor: Prof. Vicent Caselles Costa University of the Republic, Faculty of Engineering , Montevideo, Uruguay · <i>Master in Computer Science</i> 2004 - 2005 · <i>Degree in Computer Engineering</i> 1996 - 2001 CERTIFICATIONS: · Linux Professional Institute Certified Level One , LPIC-1 - ID: LPI000060615 2004 · Novell Certified Linux Administrator , Novell CLA - ID: 10112069 2010	
LANGUAGES	· Italian and Spanish: Native · English and French: Fluent · Catalan: Basic	
APPOINTMENTS	Postdoctoral Research Associate 2011 - present Centre de Mathématique et de Leurs Applications (CMLA), ENS-Cachan, Paris, France	
TEACHING EXPERIENCE	Centre de Mathématique et de Leurs Applications, ENS-Cachan , Paris, France · <i>Lecturer, Coordinator: Analyse de Fourier et Hilbertienne</i> (3rd year, L3), 2011–2013 · <i>Internship supervisor: of 3 internships</i> (3rd year, L3), 2012–2014 · <i>PhD co-advisor (with J.-M. Morel): of C. de Franchis</i> 2011–present Dept. of Information and Communication, Universitat Pompeu Fabra , Barcelona, Spain · <i>Lecturer: Introduction to Image Processing</i> (2nd year), 2009 · <i>Teacher Assistant: Introduction to Image Processing</i> (2nd year), 2008–2010 · <i>Teacher Assistant: Linear Algebra</i> (1st year), 2005, 2006, 2009, 2010 · <i>Teacher Assistant: Calculus I</i> (1st year), 2008 · <i>Teacher Assistant: Graph Theory</i> (1st year), 2007 University of the Republic, Faculty of Engineering - Computer Science Dept. , Uruguay · <i>Teaching assistant: Introduction to Fourier Analysis</i> (4th year), 2005	
PUBLICATIONS		
INTERNATIONAL JOURNALS	Ballester C., Calderero F., Caselles V., and Facciolo G. “Multiscale Analysis of Similarities between Images on Riemannian Manifolds”, <i>Multiscale Modeling & Simulation, SIAM</i> , 12, 616-649, 2014. Facciolo G., Limare N., and Meinhardt E. “Integral Images for Block Matching”, <i>Image Processing On Line</i> , (to appear) 2014. Sadek R., Facciolo G., Arias P., and Caselles V. “A variational model for Gradient-Based video editing”, <i>International Journal of Computer Vision</i> , 103, 127-162, 2013. Sánchez J., Meinhardt E., and Facciolo G. “TV-L1 optical flow estimation”, <i>Image Processing On Line</i> , 3, 137-150, 2013.	

Arias P., Caselles V., Facciolo G., Lazcano V., and Sadek R. “Nonlocal variational models for inpainting and interpolation”, *Mathematical Models and Methods in Applied Sciences*, 22, 1230003, 2012.

Arias P., Caselles V., and Facciolo G. “Analysis of a Variational Framework for Exemplar-Based Image Inpainting”. *Multiscale Modeling & Simulation, SIAM*, 10, 473-514, 2012.

Arias P., Facciolo G., Caselles V., and Sapiro G. “A variational framework for Exemplar-Based image inpainting”. *International Journal of Computer Vision*, 1-29, Jan. 2011.

Caselles V., Facciolo G., and Meinhardt E. “Anisotropic Cheeger Sets and Applications”, *Journal on Imaging. Sciences, SIAM*, 2, 1211-1254, 2009.

Facciolo G., Almansa A., Aujol J.-F., and Caselles V. “Irregular to Regular Sampling, Denoising, and Deconvolution”, *Multiscale Modeling & Simulation, SIAM*, 7, 1574-1608, 2009.

PEER REVIEWED
INTERNATIONAL
CONFERENCES

de Franchis C., Meinhardt E., Michel J., Morel J.-M., and Facciolo G. “S2P: An automatic and modular stereo pipeline for pushbroom images”, *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 2014.

Pierazzo N., Lebrun M., Rais M., Morel J.-M., and Facciolo G. “Non-local Dual Image Denoising”, *21th IEEE International Conference on Image Processing (ICIP)*, 2014.

de Franchis C., Meinhardt E., Michel J., Morel J.-M., and Facciolo G. “On stereo-rectification of pushbroom images”, *21th IEEE International Conference on Image Processing (ICIP)*, 2014.

de Franchis C., Meinhardt E., Michel J., Morel J.-M., and Facciolo G. “Automatic sensor orientation refinement for Pléiades stereo images”, *IGARSS*, 2014.

Lazcano V., Arias P., Facciolo G., and Caselles V. “A gradient based neighborhood filter for disparity interpolation”, *19th IEEE International Conference on Image Processing (ICIP)*, 2012, 873-876.

Meinhardt E., D’Hondt O., Facciolo G., and Caselles V. “Relative depth from monocular optical flow”, *18th IEEE International Conference on Image Processing (ICIP)*, 2011.

Facciolo G., Sadek R., Bugeau A., and Caselles V. “Temporally consistent gradient domain video editing”, *Energy Minimization Methods in Computer Vision and Pattern Recognition*, 2011.

Facciolo G., Arias P., Caselles V., and Sapiro G. “Exemplar-Based Interpolation of Sparsely Sampled Images”, *Energy Minimization Methods in Computer Vision and Pattern Recognition*, Springer Berlin Heidelberg, 2009, 331-44.

Facciolo G. and Caselles V. “Geodesic neighborhoods for piecewise affine interpolation of sparse data”, *16th IEEE International Conference on Image Processing (ICIP)*, 2009, 365-368.

Facciolo G., Lecumberry F., Almansa A., Pardo A., Caselles V., and Rougé B. “Constrained Anisotropic Diffusion and some Applications”, *British Machine Vision Conference (BMVC)*, 2006, 1049-1059.

Facciolo G., Almansa A., and Pardo A. “Variational approach to interpolate and correct biases in stereo correlation”, *20eme Colloque sur le traitement du signal et des images, GRETSI, Groupe d’Etudes du Traitement du Signal et des Images*, 2005, 513-516.

OTHER
PUBLICATIONS

Colom M., Facciolo G., Lebrun M., Pierazzo N., Rais M., Wang Y.-Q., and Morel J.-M. “A mathematical perspective of image de-noising”, *ICM conference*, 2014

de Franchis C., Meinhardt E., Michel J., Morel J.-M., and Facciolo G. “Automatic digital surface model generation from Pléiades stereo images”, *Revue Française de Photogrammétrie et de Télédétection, special issue Pléiades Days & ORFEO*, 2014.

Chen A., Darbon J., de Franchis C., Facciolo G., Meinhardt E., Michel J., and Morel J.-M. “Numerical simulation of landscape evolution and water run-off on digital elevation models obtained from pleiades”, *Revue Française de Photogrammétrie et de Télédétection*, 2014

Rodriguez M., Preciozzi J., Facciolo G. and Almansa A. “Simulation and Real-Time Visualization of

Changing Baseline in a Stereo Pair Visualization”, *Imaging, and Image Processing VIII*, 2008.

Almansa A. and Facciolo. G. “Towards a more general psychophysic validation of the Helmholtz Principle” and “Variational approach to interpolate and correct biases in stereo correlation”. *Poster session at the symposium: Representation of reality by brain and machines, crossed views from neurosciences and computer vision*, Montevideo, Uruguay, Nov 2004.

Laurenzo T. and Facciolo G. “Una herramienta de análisis de estrategias de fútbol de robots middle league simurosot,” *Poster session at: WCAFR2004 - Workshop en inteligencia artificial aplicada a robotica movil*, Facultad de Ciencias Exactas, Universidad Nacional del Centro de la Provincia de Buenos Aires, Buenos Aires, Argentina, Jun 2004.

RELEVANT
PARTICIPATION TO
WORKSHOPS,
SYMPOSIUMS AND
SUMMER SCHOOLS

Oxford Future of Science conference: “Rigour and Openness in 21st Century Science”. 11-12 Apr, 2013, Oxford, UK. Presenting “*I POL: Image Processing On Line; Beyond Traditional Articles*”.

Fondation des Treilles seminar: “Acting the universality of image science / Reproducible Research in Signal, Image, and Geometric Processing”. 22-27 July, 2013, Tourtour, France.

Journée du GDR ISIS ‘Analyse de scènes urbaines en image et vision’, 8 Nov, 2012, Télécom Paris-Tech, Paris, France. Presentation: “*Problèmes pratiques de la reconstruction 3D satellitaire*”. Meinhardt E. and Facciolo G.

2012 SIAM Conference on Imaging Science, Mini-Symposium: “Recent Advances in Patch-based Image Processing”, Philadelphia, PA, USA, 20-22 May, 2012. Presenting “*Analysis of a Variational Framework for Exemplar Based Image Inpainting*”.

“Santaló’s Summer School on Mathematical Models in Image Processing and Computer Vision”, UIMP, Santander, Spain, 8-12 August, 2011.

MFO Workshop “Trends in Mathematical Imaging and Surface Processing”, Oberwolfach, Germany, January 30 - February 5, 2011.

“School on Neuromathematics of Vision”, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, September 4-9, 2006.

“2006 IEEE Information Theory Workshop” (ITW 2006) Punta del Este, Uruguay, March 13-17, 2006.

Symposium: “Representation of reality by brain and machines; crossed views from neurosciences and computer vision”, Montevideo, Uruguay, 8-12 November, 2004.

CONFERENCE
ORGANIZATIONS
AND JOURNAL
ACTIVITIES

• **Co-organizer (with A. Buades) of the mini-symposium “High Precision Stereo Vision”** in SIAM Conference on Imaging Sciences 2014, Hong Kong Baptist University, May 2014.

• **Member of the Program Committee, CLEI 2013** - Simposio Computación Gráfica, Realidad Virtual y Procesamiento de Imágenes PC.

• **Member of the editorial board of the Journal: Image Processing On Line (IPOL)** 2011–present.

• **Reviewer for international journals:** SIIMS, JVCI, IPOL, JMIV, IPI, and TIP.

OTHER ACADEMIC
ACTIVITIES

• **IPOL Technical Team.** Provide technical assistance for the journal Image Processing On Line. 2011–present.

• **Part of the ALFA Network** in Computer Vision (2005 – 2008). European program for Latin-american and European Doctoral students working in the field of Computer Vision.

• **Stage at École Normale Supérieure de Cachan**, Paris, France (2006-2007).

PROFESSIONAL
EXPERIENCE

Fundació Barcelona Media, Barcelona, Spain
Research Staff

2010

ANTEL (Uruguayan telecommunication company), Montevideo, Uruguay

<i>Unix system administrator and platform integration</i>	2002 – 2005
<i>Network security administration</i>	2001 – 2002
University of the Republic, Faculty of Engineering - CS Dept. , Montevideo, Uruguay	
<i>Scientific programmer</i>	2004 – 2005
<i>Security consultant</i>	2004 – 2005
<i>System integration engineer</i>	2002 – 2003
University of the Republic, Faculty of Sciences - Math. Dept. , Montevideo, Uruguay	
<i>Network administrator</i>	1999 – 2002
HG hosting service (http://www.hg.com.uy/) , Montevideo, Uruguay	
<i>Systems Integration Engineer</i>	2002 – 2003
ANEP (MEMFOD) , Montevideo, Uruguay	
<i>Freelance contract</i>	2003
GUARDIS S.A. , Montevideo, Uruguay	
<i>Smart Card developement in C (Schlumberger platform)</i>	1999 – 2002
Colegio Nacional José Pedro Varela (high school), Montevideo, Uruguay	
<i>Informatics laboratory assistant</i>	1996 – 2002

SKILLS

- **Programming:** Proficient in C, C++, Python and Shell Scripting. Experienced with Perl and JAVA. Familiar with SQL, PHP and GPU programming in CUDA.
- **Operating Systems:** Experienced with GNU/Linux, OSX and MS-Windows.
- **Versioning:** Familiar with SubVersion(SVN) and GIT .
- **Data analysis:** Familiar with Matlab/Octave.
- **Publishing:** Experienced with $\text{\LaTeX} 2_{\epsilon}$. Familiar with JavaScript, HTML and XML.

SYSTEM ADMINISTRATION

- **Unix administration:** OSX, Linux, Solaris, AIX and HP-UX
- **Windows-Unix Interoperability:** with Samba, Kerberos, Ldap, Racf.
- **Network Security:** HTTP and Socks Proxy, Iptables based Firewalls and Cisco PIX, VPNs (FreeS/WAN), Radius Servers, basic administration of Cisco routers and switches.
- **Network services:** administration & configuration: nfs/nis, samba, lpr, Kerberos, ldap, dhcp, ssh
- **Virtualization services:** experience with VMware enterprise server administration
- **Internet services:** administration & configuration: sendmail, qmail, apache, IIS, bind, xntpd
- **High Availability and Clusters in Unix environments:** design, installation and maintenance of Clusters in Linux, PSSP (IBM) and HACMP in AIX.

REFEREES

Available on request.