

# **CURRICULUM VITAE**

## PERSONAL INFORMATION

Paolo Ettore Gamba



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Sex = | Date of birth ===== | Nationality =====

CURRENT POSITION	<b>Full Professor in Telecommunications &amp; Remote Sensing</b> Dipartimento di Ingegneria Industriale e dell'Informazione University of Pavia
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## WORK EXPERIENCE

- Nov. 2001 – Dec. 2016 **Associate Professor**  
**Telecommunications & Remote Sensing**  
University of Pavia, Pavia, Italy
- Nov. 1994 – Oct. 2001 **Senior Researcher**  
**Electromagnetics (until Nov. 30, 2000)**  
**Telecommunications & Remote Sensing (since Dec. 1, 2000)**  
University of Pavia, Pavia, Italy
- Nov. 1992 – Oct. 1994 **Senior Microwave Designer**  
Siemens TLC, Milano, Italy

## EDUCATION AND TRAINING

- Nov. 1989 – Oct. 1992 **Ph.D. in Electronic and Computer Engineering**  
University of Pavia, Pavia, Italy
- Nov. 1983 – Jan. 1989 **5 years “Laurea” degree in Electronic Engineering** 110 e lode  
University of Pavia, Pavia, Italy

## PERSONAL SKILLS

Mother tongue Italian

Other language

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C1

## ADDITIONAL INFORMATION

- Publications**
- Presentations**
- Research Interests**
  - a) Design of efficient algorithms to analyse EO data and extract feature to characterize urban areas

Projects  
 Conferences  
 Seminars  
 Honours and awards  
 Memberships  
 References  
 Citations  
 Courses  
 Certifications

- and in general human settlements at multiple spatial scales and spectral wavelengths.
- b) Design of data fusion techniques to exploit information coming from multiple EO and in situ data sources for environmental risk models at local, regional and global scale.
- feature extraction, selection and combination procedures to evaluate spectral, spatial and temporal characteristics of each available data source for their comparison (e.g. change detection) or synergetic use (e.g. multivariate regression);
  - fusion of features by means of algorithms able to reconcile multiple features from both homogeneous and heterogeneous data sources (e.g. 2D/3D, vector and raster, ...) and/or different scales via inference or aggregation schemes.
- c) Development of novel tools to extract quantitative parameters from remotely sensed data and to link the extracted information to risk and environmental models.
- classification, mapping and geospatial data fusion procedures for the retrieval of parameters and information layers essential to understand the above mentioned processes
  - signal and image processing in high dimensional spaces, applications in very high resolution remote sensing.

#### Supervision of MSc, PhD and Post Doc students

- a) M.Sc. students (>50)  
 b) Ph.D. students (18: 13 defended, 5 on-going)  
 c) Post-docs (7)  
 d) Member of the Governing Board of the Ph.D. in Electrical Engineering, Electronics and Computer Science since 2008

#### Publications Metrics

SUMMARY	
Books	2
Chapters in books	22
Papers in books	16
Special Issues edited in int. journals	18
Papers in international peer-reviewed journals	179
Papers in national peer-reviewed journals	5
International conference papers	317
National conference papers	8

BIBLIOMETRY		
	ResearcherID	Scopus
Number of cited papers	416	503
Total number of citations	8463	11102
H-index	47	51

#### Editorial Boards

- Editor-in-Chief, IEEE Geoscience and Remote Sensing Letters (three years assignment for 2009-2011, confirmed for two more years until the end of 2013)
- Associate Editor, IEEE Trans. on Geoscience and Remote Sensing (since 2009-2013)
- Associate Editor, IEEE Geoscience and Remote Sensing Letters (2006-2013)
- Associate Editor, International Journal of Information Fusion (2006-2009)
- Guest Editor, IEEE Journal on Selected Topics in Applied Earth Observations and Remote Sensing (since 2009)
- Member of the Editorial Board, International Journal of Image and Data Fusion (2013-2015)
- Member of the Editorial Advisory Board, ISPRS Journal of Photogrammetry and Remote Sensing (since Jan. 2013)
- Associate Editor, Remote Sensing of Environment (March 2021-November 2022)
- Editor-in-Chief, IEEE Geoscience and Remote Sensing Magazine (2023-2024)

#### Professional membership

- Fellow of IEEE (Institute of Electrical and Electronic Engineers)
- Fellow of IAPR (International Association for Pattern Recognition)
- Fellow of AAILA (Asia-Pacific Artificial Intelligence Association)
- Member of Academia Europaea

#### Leadership roles in Scientific Societies & Research Institutes

- IEEE Geoscience and Remote Sensing Society
  - Chair of the Data Fusion Technical Committee (2005-2009)

- Chair of the Conference Advisory Committee (2008-2009)
- "Ex officio" Administrative Committee Member (2009-2013 and 2021-2025)
- Elected Administrative Committee Member (2014-2020)
- Responsible for the activities towards Latin America (2014-2016)
- Chapter Committee Chair (2014-2016)
- VP for Professional Activities (2016)
- Executive VP (2017-2018)
- President (2019-2020)
- Past President (2021-2022)
- International Association for Pattern Recognition
  - Chair of Technical Committee 7 "Remote Sensing" from 2002 to 2004.
- UN-HABITAT
  - Member of the International Advisory Board for the "Status of World Cities Report" for 2008.
- European Center for Training and research in Earthquake Engineering
  - Head of the Remote Sensing and Telecommunications Section from 2008 to March 2011.
- IUSS (University Institute for Advanced Studies)
  - Director of the International Center for Research on Risk and Security from 2007 to December 2010.
- Consorzio Università Italiane per l'Argentina (CUIA)
  - Member of the Scientific Committee on behalf of the University of Pavia since March 2016, and the Administrative Committee since January 2018.
  - Member of the Administrative Committee (2018-2019, 2021-present)
  - Chair of the School in Science and Technology (TECS) (2022-present)
- Sub-Center of International Cooperation and Research on Lunar and Planetary Exploration of COSE (P.R. China)
  - Member of the Academic Scientific Committee since September 2018.

#### Selected publications

- [1] P. Gamba, "Human settlements: a global challenge for EO data processing and interpretation", Proceedings of the IEEE, doi: 10.1109/JPROC.2012.2189089, vol. 101, no. 3, pp. 570-581, March. 2013.
- [2] G.C. Iannelli, G. Lisini, F. Dell'Acqua, R. Queiroz Feitosa, G.A.O.P. Costa, P. Gamba, "Urban area extent extraction in spaceborne HR and VHR data using multi-resolution features", Sensor, doi:10.3390/s141018337, vol. 14, pp. 18337-18352, 2014.
- [3] N.N. Patel, E. Angiuli, P. Gamba, A. Gaughan, G. Lisini, F.R. Stevens, A.J. Tatem, and G. Trianni "Multitemporal settlement and population mapping from Landsat using Google Earth Engine", J. of Applied Earth Observation and Remote Sensing, doi: 10.1016/j.jag.2014.09.005, Vol. 35, Part B, pp. 199-208, March 2015.
- [4] G. Trianni, G. Lisini, E. Angiuli, E.A. Moreno, P. Dondi, A. Gaggia, and P. Gamba, "Scaling up to national/regional urban extent mapping using Landsat data", IEEE J. of Selected Topics in Applied Earth Observation and Remote Sensing, doi: 10.1109/JSTARS.2015.2398032, Vol. 8, no. 7, pp. 3710-3719, 2015.
- [5] A. Salentinig, P. Gamba, "A general framework for urban area extraction exploiting multi-resolution SAR data fusion", IEEE J. of Selected Topics in Applied Earth Observation and Remote Sensing, vol. 9, no. 5, pp. 2009-2018, 2016.
- [6] A. Marinoni, G.C. Iannelli, P. Gamba, "An information theory-based scheme for efficient classification of remote sensing data", IEEE Trans. on Geoscience and Remote Sensing, doi: 10.1109/TGRS.2017.2716187, vol. 55, no. 10, pp. 5864-5876, Oct. 2017.
- [7] Y. Zhao, B. Huang, A. Marinoni and P. Gamba, "High spatiotemporal resolution PM2.5 concentration estimation with satellite and ground observations: A case study in New York City," 2018 IEEE International Conference on Environmental Engineering (EE), Milan, 2018, pp. 1-5.
- [8] A. Marinoni, D. De Vecchi, D. Tuia, and P. Gamba, "Discovering temporal patterns of air quality in different parts of Europe with data driven feature extraction", Proc. of IGARSS'18, Valencia (Spain), July 22-27, 2018, pp. 2066-2069.
- [9] M. Che, P. Gamba, "Intra-urban change analysis using Sentinel-1 and nighttime light data", IEEE J. of Selected Topics in Applied Earth Observation and Remote Sensing, doi: 10.1109/JSTARS.2019.2899881, vol. 12, no. 4, pp. 1134-1142, April 2019.
- [10] D. Ratha, P. Gamba, A. Bhattacharya, A. Frery "Novel techniques for built-up area extraction from polarimetric SAR images", IEEE Geoscience and Remote Sensing Letters, doi: 10.1109/LGRS.2019.2914913, vol. 17, no.1, pp. 177-181, Jan. 2020.
- [11] F. Bayer, D. Bayer, A. Marinoni, P. Gamba, "A Novel Rayleigh Dynamical Model for Remote Sensing Data Interpretation", IEEE Trans. Geoscience and Remote Sensing, doi: 10.1109/TGRS.2020.2971345, vol. 58, no. 7, pp. 4989-4999, July 2020.
- [12] F. Bayer, D. Bayer, P. Gamba, "A Three-dimensional Spatio-temporal Model for Remote Sensing Data Cubes", IEEE Trans. Geoscience and Remote Sensing, doi: 10.1109/TGRS.2020.2998295, vol. 59, no. 2, pp. 1082-1093, Feb. 2021.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

(Paolo Gamba)