

# Curriculum Vitae

## Informazioni Personali

Nome: **Maurizio Filippone**

Nazionalità: Italiana

Posizione Attuale: **Lecturer** - School of Computing Science, University of Glasgow

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## Istruzione e Formazione

- Dall'01-01-2005 al 05-05-2008  
Titolo conseguito: Dottorato in Informatica  
Istituto: Dipartimento di Informatica e Scienze dell'Informazione - Università di Genova  
Titolo della tesi: Central Clustering in Kernel-Induced Spaces  
Argomenti trattati nella tesi: metodi kernel per il clustering, spectral clustering, clustering relazionale, fuzzy clustering.
- Dall'01-09-1998 al 14-07-2004  
Laurea in Fisica  
Istituto: Dipartimento di Fisica - Università di Genova  
Voto: 110/110  
Titolo della tesi: Metodi di Ensemble per la previsione di serie storiche  
Argomenti trattati nella tesi: sistemi non lineari, regressione, ensemble di macchine d'apprendimento, elaborazione di segnali.
- Dall'01-09-1993 all'01-07-1998  
Diploma in Elettronica e Telecomunicazioni  
Istituto: Scuola superiore I.T.I.S. Italo Calvino - Genova  
Volto: 60/60

## Borse di Studio e Assegni di Ricerca

- Dal 01-01-2010 al 31-08-2011  
Department of Statistical Science - University College London (2010 with the Department of Computing Science - University of Glasgow)  
1-19 Torrington Place, London, WC1E 7HB - United Kingdom.  
Grant: The Synthesis of Probabilistic Prediction & Mechanistic Modelling within a Computational & Systems Biology Context  
PI: Prof. Mark Girolami
- Dal 15-03-2008 al 31-05-2009  
Department of Computer Science - University of Sheffield  
Regent Court, 211 Portobello, Sheffield, S1 4DP - United Kingdom  
Grant: ALMS: Advanced Lifestyle Monitoring Systems

Argomenti: novelty detection, test statistici, inferenza Bayesiana in data modeling.  
PI: Dr Guido Sanguinetti

- Dall'01-03-2007 al 30-10-2007  
Department of Information and Software Engineering - George Mason University  
4400 University Drive, Fairfax, VA 22030 - USA  
Grant: Detecting Suspicious Behavior in Reconnaissance Images  
Argomenti: outlier detection, stima di densità, clustering relazionale.  
PI e co-PI: Prof. Daniel Barbarà e Prof. Carlotta Domeniconi
- Dal 20-07-2006 al 30-10-2006  
presso il Consorzio Venezia Ricerche  
Via della Libertà 12, 30175 Marghera, Venezia - Italy  
Grant: Realizzazione di un sistema di previsione di marea.  
Argomenti: analisi e previsione di serie temporali, regressione, ensembles di macchine di apprendimento.  
Supervisore: Prof. Elio Canestrelli
- Dall'01-09-2005 al 30-04-2007  
presso il Dipartimento di Informatica e Scienze dell'Informazione - Università di Genova  
Via Dodecaneso 35, 16146 Genova - Italy  
Vincitore di una borsa di studio sul tema:  
Nuove tecniche di clustering con applicazione all'analisi e segmentazione di immagini.  
Supervisore: Dr Stefano Rovetta
- Dall'01-06-2005 al 31-08-2005  
presso il Dipartimento di Informatica e Scienze dell'Informazione e Dipartimento di Scienze Endocrinologiche e Metaboliche - Università di Genova  
Via Dodecaneso 35, 16146 Genova - Italy  
Vincitore di una borsa di studio sul tema:  
Applicazione di tecniche innovative di clustering a problemi diagnostici in ambito reumatologico.  
Supervisore: Prof. Guido Rovetta
- Dall'01-09-2004 al 31-09-2004  
presso il Dipartimento di Informatica e Scienze dell'Informazione - Università di Genova  
Via Dodecaneso 35, 16146 Genova - Italy  
Progetto: Sviluppo di un pacchetto software in linguaggio R e C per l'analisi e la previsione di serie temporali.  
Supervisore: Prof. Francesco Masulli
- Dall'01-12-2003 al 31-12-2003  
presso il Dipartimento di Oncologia, Biologia e Genetica (148) - Università di Genova  
Largo Rosanna Benzi 10, 16132 Genova - Italy  
Progetto: Sviluppo di una interfaccia in Perl Tk e Java per un simulatore di sistema immunitario in linguaggio C.  
Supervisore: Prof. Franco Celada

## Attività di ricerca

### Progetti di Ricerca Finanziati

- *Computational inference of biopathway dynamics and structures* (£350K) with D. Husmeier and S. Rogers - EPSRC research grant (2014 - 2017)
- *Method and software integration for systems biology* (£30K) with D. Husmeier and S. Rogers - Bridging the Gap-EPSRC research grant (2012)

### Premi Internazionali

- Miglior articolo pubblicato nel 2008 sulla rivista Pattern Recognition:  
M. Filippone, F. Camastra, F. Masulli, and S. Rovetta. **A survey of kernel and spectral methods for clustering**. *Pattern Recognition*, 41(1):176-190, January 2008.  
Manuscripts published in volume 41 (year 2008) have been judged by the Editors-in-Chief and the members of the Editorial and Advisory Boards of the journal based on the following criteria: originality of the contribution, presentation and exposition of the manuscript, and citations by other researchers.

## Pubblicazioni

### Journals

- G. Franzese, S. Rossi, L. Yang, A. Finamore, D. Rossi, M. Filippone, and P. Michiardi. How much is enough? a study on diffusion times in score-based generative models. *Entropy*, 25(4), 2023.
- B.-H. Tran, S. Rossi, D. Milios, and M. Filippone. All you need is a good functional prior for Bayesian deep learning. *Journal of Machine Learning Research*, 23(74):1–56, 2022.
- S. Marmin and M. Filippone. Deep gaussian processes for calibration of computer models. *Bayesian Analysis*, to appear, 2021.
- C. Carota, M. Filippone, and S. Polettini. Assessing bayesian semi-parametric log-linear models: An application to disclosure risk estimation. *International Statistical Review*, to appear, 2021.
- A. Zammit-Mangion, T.-L. J. Ng, Q. Vu, and M. Filippone. Deep compositional spatial models. *Journal of the American Statistical Association*, to appear, 2021.
- R. Domingues, P. Michiardi, J. Barlet, and M. Filippone. A comparative evaluation of novelty detection algorithms for discrete sequences. *Artificial Intelligence Review*, 53:3787–3812, 2020.
- M. Lorenzi, M. Filippone, G. B. Frisoni, D. C. Alexander, and S. Ourselin. Probabilistic disease progression modeling to characterize diagnostic uncertainty: Application to staging and prediction in alzheimer’s disease. *NeuroImage*, 190:56–68, 2019.
- R. Domingues, P. Michiardi, J. Zouaoui, and M. Filippone. Deep Gaussian Process autoencoders for novelty detection. *Machine Learning*, 107(8-10):1363–1383, 2018.
- R. Domingues, M. Filippone, P. Michiardi, and J. Zouaoui. A comparative evaluation of outlier detection algorithms: Experiments and analyses. *Pattern Recognition*, 74:406–421, 2018.
- M. Niu, B. Macdonald, S. Rogers, M. Filippone, and D. Husmeier. Statistical inference in mechanistic models: time warping for improved gradient matching. *Computational Statistics*, pages 1–33, 8 2017.

- X. Xiong, V. Šmídl, and M. Filippone. Adaptive multiple importance sampling for Gaussian processes. *Journal of Statistical Computation and Simulation*, 87(8):1644–1665, 2017.
- B. Macdonald, M. Niu, S. Rogers, M. Filippone, and D. Husmeier. Approximate parameter inference in systems biology using gradient matching: a comparative evaluation. *BioMedical Engineering OnLine*, 15(Suppl 1):80, 7 2016.
- J. M. Rondina, M. Filippone, M. Girolami, and N. S. Ward. Decoding post-stroke motor function from structural brain imaging. *NeuroImage: Clinical*, 12:372–380, 2016.
- C. Carota, M. Filippone, R. Leombruni, and S. Polettini. Bayesian nonparametric disclosure risk estimation via mixed effects log-linear models. *Annals of Applied Statistics*, 9(1):525–546, 2015.
- M. Dell’Amico, M. Filippone, P. Michiardi, and Y. Roudier. On user availability prediction and network applications. *IEEE/ACM Transactions on Networking*, 23(4):1300–1313, Aug 2015.
- M. Filippone and M. Girolami. Pseudo-marginal Bayesian inference for Gaussian processes. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 36(11):2214–2226, 2014.
- S. Kim, F. Valente, M. Filippone, and A. Vinciarelli. Predicting continuous conflict perception with Bayesian Gaussian processes. *IEEE Transactions on Affective Computing*, 5(2):187–200, 2014.
- A. F. Marquand, M. Filippone, J. Ashburner, M. Girolami, J. Mourão-Miranda, G. J. Barker, S. C. R. Williams, P. N. Leigh, and C. R. V. Blain. Automated, High Accuracy Classification of Parkinsonian Disorders: A Pattern Recognition Approach. *PLoS ONE*, 8(7):e69237+, 2013.
- M. Filippone, M. Zhong, and M. Girolami. A comparative evaluation of stochastic-based inference methods for Gaussian process models. *Machine Learning*, 93(1):93–114, 2013.
- Y. Zhao, J. Kim, and M. Filippone. Aggregation algorithm towards large-scale boolean network analysis. *IEEE Transactions on Automatic Control*, 58(8):1976–1985, 2013.
- M. Filippone, A. F. Marquand, C. R. V. Blain, S. C. R. Williams, J. Mourão-Miranda, and M. Girolami. Probabilistic prediction of neurological disorders with a statistical assessment of neuroimaging data modalities. *Annals of Applied Statistics*, 6(4):1883–1905, 2012.
- L. Mohamed, B. Calderhead, M. Filippone, M. Christie, and M. Girolami. Population MCMC methods for history matching and uncertainty quantification. *Computational Geosciences*, 16(2):423–436, 2012.
- M. Filippone and G. Sanguinetti. Approximate inference of the bandwidth in multivariate kernel density estimation. *Computational Statistics & Data Analysis*, 55(12):3104–3122, 2011.
- M. Filippone and G. Sanguinetti. A perturbative approach to novelty detection in autoregressive models. *IEEE Transactions on Signal Processing*, 59(3):1027–1036, 2011.
- M. Filippone, F. Masulli, and S. Rovetta. Simulated annealing for supervised gene selection. *Soft Computing - A Fusion of Foundations, Methodologies and Applications*, 15:1471–1482, 2011.
- M. Filippone, F. Masulli, and S. Rovetta. Applying the possibilistic c-means algorithm in kernel-induced spaces. *IEEE Transactions on Fuzzy Systems*, 18(3):572–584, June 2010.
- M. Filippone and G. Sanguinetti. Information theoretic novelty detection. *Pattern Recognition*, 43(3):805–814, March 2010.

- M. Filippone. Dealing with non-metric dissimilarities in fuzzy central clustering algorithms. *International Journal of Approximate Reasoning*, 50(2):363–384, February 2009.
- F. Camastra and M. Filippone. A comparative evaluation of nonlinear dynamics methods for time series prediction. *Neural Computing and Applications*, 18(8):1021–1029, November 2009.
- M. Filippone, F. Masulli, and S. Rovetta. Clustering in the membership embedding space. *International Journal of Knowledge Engineering and Soft Data Paradigms*, 4(1):363–375, 2009.
- S. Rovetta, F. Masulli, and M. Filippone. Soft ranking in clustering. *Neurocomputing*, 72(7-9):2028–2031, March 2009.
- M. Filippone, F. Camastra, F. Masulli, and S. Rovetta. A survey of kernel and spectral methods for clustering. *Pattern Recognition*, 41(1):176–190, January 2008.

## Conferences

- J. Wacker, R. Ohana, and M. Filippone. Complex-to-real sketches for tensor products with applications to the polynomial kernel. In F. Ruiz, J. Dy, and J.-W. van de Meent, editors, *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics*, volume 206 of *Proceedings of Machine Learning Research*, pages 5181–5212. PMLR, 25–27 Apr 2023.
- G. Franzese, D. Milios, M. Filippone, and P. Michiardi. Revisiting the effects of stochasticity for Hamiltonian samplers. In K. Chaudhuri, S. Jegelka, L. Song, C. Szepesvari, G. Niu, and S. Sabato, editors, *Proceedings of the 39th International Conference on Machine Learning*, volume 162 of *Proceedings of Machine Learning Research*, pages 6744–6778. PMLR, 17–23 Jul 2022.
- B.-H. Tran, S. Rossi, D. Milios, P. Michiardi, E. V. Bonilla, and M. Filippone. Model selection for Bayesian autoencoders. In A. Beygelzimer, Y. Dauphin, P. Liang, and J. W. Vaughan, editors, *Advances in Neural Information Processing Systems*, 2021.
- G.-L. Tran, D. Milios, P. Michiardi, and M. Filippone. Sparse within Sparse Gaussian Processes using Neighbor Information. In M. Meila and T. Zhang, editors, *Proceedings of the 38th International Conference on Machine Learning*, volume 139 of *Proceedings of Machine Learning Research*, pages 10369–10378. PMLR, 18–24 Jul 2021.
- G. Mita, M. Filippone, and P. Michiardi. An Identifiable Double VAE For Disentangled Representations. In M. Meila and T. Zhang, editors, *Proceedings of the 38th International Conference on Machine Learning*, volume 139 of *Proceedings of Machine Learning Research*, pages 7769–7779. PMLR, 18–24 Jul 2021.
- S. Rossi, M. Heinonen, E. Bonilla, Z. Shen, and M. Filippone. Sparse Gaussian Processes Revisited: Bayesian Approaches to Inducing-Variable Approximations. In A. Banerjee and K. Fukumizu, editors, *Proceedings of The 24th International Conference on Artificial Intelligence and Statistics*, volume 130 of *Proceedings of Machine Learning Research*, pages 1837–1845. PMLR, 13–15 Apr 2021.
- S. Rossi, S. Marmin, and M. Filippone. Walsh-Hadamard variational inference for Bayesian deep learning. In H. Larochelle, M. Ranzato, R. Hadsell, M. Balcan, and H. Lin, editors, *Advances in Neural Information Processing Systems*, volume 33, pages 9674–9686. Curran Associates, Inc., 2020.
- G. Mita, P. Papotti, M. Filippone, and P. Michiardi. LIBRE: Learning Interpretable Boolean Rule Ensembles. In *AISTATS 2020, Palermo, Italy*, 2020.
- S. Rossi, S. Marmin, and M. Filippone. Efficient approximate inference with walsh-hadamard variational inference. In *Bayesian Deep Learning Workshop, NeurIPS*, 2019.

- C. Nemeth, F. Lindsten, M. Filippone, and J. Hensman. Pseudo-extended Markov chain Monte Carlo. In *Advances in Neural Information Processing Systems 32: Annual Conference on Neural Information Processing Systems 2019, 9-12 December 2019, Vancouver, British Columbia, Canada*, 2019.
- S. Rossi, P. Michiardi, and M. Filippone. Good Initializations of Variational Bayes for Deep Models. In *Proceedings of the 36th International Conference on Machine Learning, ICML 2019, Long Beach, USA, 2019*, 2019.
- G.-L. Tran, E. V. Bonilla, J. P. Cunningham, P. Michiardi, and M. Filippone. Calibrating Deep Convolutional Gaussian Processes. In *AISTATS 2019, Naha, Japan, 2019*, 2019.
- D. Nguyen, M. Filippone, and P. Michiardi. Exact Gaussian process regression with distributed computations. In C. Hung and G. A. Papadopoulos, editors, *Proceedings of the 34th ACM/SIGAPP Symposium on Applied Computing, SAC 2019, Limassol, Cyprus, April 8-12, 2019*, pages 1286–1295. ACM, 2019.
- D. Milios, R. Camoriano, P. Michiardi, L. Rosasco, and M. Filippone. Dirichlet-based Gaussian Processes for Large-scale Calibrated Classification. In *Advances in Neural Information Processing Systems 31: Annual Conference on Neural Information Processing Systems 2018, December 3-7 2018, Montreal, Quebec, Canada*, 2018.
- M. Lorenzi and M. Filippone. Constraining the Dynamics of Deep Probabilistic Models. In *Proceedings of the 35th International Conference on Machine Learning, ICML 2018, Stockholm, Sweden, 2018*, 2018.
- J. Fitzsimons, D. Granziol, K. Cutajar, M. Osborne, M. Filippone, and S. Roberts. Entropic Trace Estimates for Log Determinants. In *Machine Learning and Knowledge Discovery in Databases - European Conference, ECML PKDD 2017, Skopje, Macedonia, September 18-22, 2017*, 2017.
- J. Fitzsimons, K. Cutajar, M. Osborne, S. Roberts, and M. Filippone. Bayesian Inference of Log Determinants. In *Thirty-Third Conference on Uncertainty in Artificial Intelligence, UAI 2017, August 11-15, 2017, Sydney, Australia*, 2017.
- K. Krauth, E. V. Bonilla, K. Cutajar, and M. Filippone. AutoGP: Exploring the capabilities and limitations of Gaussian process models. In *Thirty-Third Conference on Uncertainty in Artificial Intelligence, UAI 2017, August 11-15, 2017, Sydney, Australia*, 2017.
- K. Cutajar, E. V. Bonilla, P. Michiardi, and M. Filippone. Random feature expansions for deep Gaussian processes. In *Proceedings of the 34th International Conference on Machine Learning, ICML 2017, Sydney, Australia, August 6-11, 2017*, 2017.
- Y. Han and M. Filippone. Mini-batch spectral clustering. In *2016 International Joint Conference on Neural Networks, IJCNN 2017, Anchorage, AK, USA, May 14-19, 2017*. IEEE, 2017.
- K. Cutajar, E. V. Bonilla, P. Michiardi, and M. Filippone. Accelerating deep Gaussian processes inference with arc-cosine kernels. In *Bayesian Deep Learning Workshop, NIPS*, 2016.
- X. Xiong, M. Filippone, and A. Vinciarelli. Looking good with flickr faves: Gaussian processes for finding difference makers in personality impressions. In *ACM Multimedia*, 2016.
- K. Cutajar, M. A. Osborne, J. P. Cunningham, and M. Filippone. Preconditioning kernel matrices. In *Proceedings of the 33rd International Conference on Machine Learning, ICML 2016, New York City, USA, June 19-24, 2016*, 2016.

- M. Niu, S. Rogers, M. Filippone, and D. Husmeier. Fast inference in nonlinear dynamical systems using gradient matching. In *Proceedings of the 33rd International Conference on Machine Learning, ICML 2016, New York City, USA, June 19-24, 2016*, 2016.
- J. Hensman, A. G. de G. Matthews, M. Filippone, and Z. Ghahramani. MCMC for variationally sparse Gaussian processes. In *Advances in Neural Information Processing Systems 28: Annual Conference on Neural Information Processing Systems 2015, December 7-12 2015, Montreal, Quebec, Canada, 2015*.
- M. Dell’Amico and M. Filippone. Monte Carlo strength evaluation: Fast and reliable password checking. In *Proceedings of the 22nd ACM Conference on Computer and Communications Security*, 2015.
- M. Filippone and R. Engler. Enabling scalable stochastic gradient-based inference for Gaussian processes by employing the Unbiased Linear System SolvEr (ULISSE). In *Proceedings of the 32nd International Conference on Machine Learning, ICML 2015, Lille, France, July 6-11, 2015*, 2015.
- M. Filippone. Bayesian inference for Gaussian process classifiers with annealing and pseudo-marginal MCMC. In *22nd International Conference on Pattern Recognition, ICPR 2014, Stockholm, Sweden, August 24-28, 2014*, pages 614–619, 2014.
- A. D. O’Harney, A. Marquand, K. Rubia, K. Chantiluke, A. B. Smith, A. Cubillo, C. Blain, and M. Filippone. Pseudo-marginal Bayesian multiple-class multiple-kernel learning for neuroimaging data. In *22nd International Conference on Pattern Recognition, ICPR 2014, Stockholm, Sweden, August 24-28, 2014*, pages 3185–3190, 2014.
- F. Dondelinger, M. Filippone, S. Rogers, and D. Husmeier. ODE parameter inference using adaptive gradient matching with Gaussian processes. In *AISTATS*, 2013.
- S. Kim, M. Filippone, F. Valente, and A. Vinciarelli. Predicting the conflict level in television political debates: an approach based on crowdsourcing, nonverbal communication and Gaussian processes. In *Proceedings of the 20th ACM Multimedia Conference, MM ’12, Nara, Japan, October 29 - November 02, 2012*, pages 793–796. ACM, 2012.
- G. Mohammadi, A. Origlia, M. Filippone, and A. Vinciarelli. From speech to personality: mapping voice quality and intonation into personality differences. In *Proceedings of the 20th ACM Multimedia Conference, MM ’12, Nara, Japan, October 29 - November 02, 2012*, pages 789–792. ACM, 2012.
- D. Barbará, C. Domeniconi, Z. Duric, M. Filippone, R. Mansfield, and E. Lawson. Detecting suspicious behavior in surveillance images. In *Workshops Proceedings of the 8th IEEE International Conference on Data Mining (ICDM 2008), December 15-19, 2008, Pisa, Italy*, pages 891–900. IEEE, 2008.
- M. Filippone, F. Masulli, and S. Rovetta. Stability and performances in biclustering algorithms. In *Computational Intelligence Methods for Bioinformatics and Biostatistics, 5th International Meeting, CIBB 2008, Vietri sul Mare, Italy, October 3-4, 2008, Revised Selected Papers*, volume 5488 of *Lecture Notes in Computer Science*, pages 91–101. Springer, 2008.
- M. Filippone, F. Masulli, and S. Rovetta. An experimental comparison of kernel clustering methods. In *New Directions in Neural Networks - 18th Italian Workshop on Neural Networks: WIRN 2008, Vietri sul Mare, Italy, May 22-24, 2008, Revised Selected Papers*, volume 193 of *Frontiers in Artificial Intelligence and Applications*, pages 118–126. IOS Press, 2008.

- F. Camastra and M. Filippone. SVM-based time series prediction with nonlinear dynamics methods. In *Knowledge-Based Intelligent Information and Engineering Systems, 11th International Conference, KES 2007, XVII Italian Workshop on Neural Networks, Vietri sul Mare, Italy, September 12-14, 2007, Proceedings, Part III*, volume 4694 of *Lecture Notes in Computer Science*, pages 300–307. Springer, 2007.
- S. Rovetta, F. Masulli, and M. Filippone. Membership embedding space approach and spectral clustering. In *Knowledge-Based Intelligent Information and Engineering Systems, 11th International Conference, KES 2007, XVII Italian Workshop on Neural Networks, Vietri sul Mare, Italy, September 12-14, 2007, Proceedings, Part III*, volume 4694 of *Lecture Notes in Computer Science*, pages 901–908. Springer, 2007.
- E. Canestrelli, P. Canestrelli, M. Corazza, M. Filippone, S. Giove, and F. Masulli. Local learning of tide level time series using a fuzzy approach. In *Proceedings of the International Joint Conference on Neural Networks, IJCNN 2007, Celebrating 20 years of neural networks, Orlando, Florida, USA, August 12-17, 2007*, pages 1813–1818. IEEE, 2007.
- M. Filippone, F. Masulli, and S. Rovetta. Possibilistic clustering in feature space. In *Applications of Fuzzy Sets Theory, 7th International Workshop on Fuzzy Logic and Applications, WILF 2007, Camogli, Italy, July 7-10, 2007, Proceedings*, volume 4578 of *Lecture Notes in Computer Science*, pages 219–226. Springer, 2007.
- M. Filippone, F. Masulli, S. Rovetta, S. Mitra, and H. Banka. Possibilistic approach to biclustering: An application to oligonucleotide microarray data analysis. In *Computational Methods in Systems Biology, International Conference, CMSB 2006, Trento, Italy, October 18-19, 2006, Proceedings*, volume 4210 of *Lecture Notes in Computer Science*, pages 312–322. Springer, 2006.
- M. Filippone, F. Masulli, S. Rovetta, and S.-P. Constantinescu. Input selection with mixed data sets: A simulated annealing wrapper approach. In *CISI 06 - Conferenza Italiana Sistemi Intelligenti, Ancona - Italy, 27-29 September 2006*.
- M. Filippone, F. Masulli, and S. Rovetta. Gene expression data analysis in the membership embedding space: A constructive approach. In *CIBB 2006 - Third International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics, Genova - Italy, 29-31 August 2006*.
- M. Filippone, F. Masulli, and S. Rovetta. Supervised classification and gene selection using simulated annealing. In *Proceedings of the International Joint Conference on Neural Networks, IJCNN 2006, part of the IEEE World Congress on Computational Intelligence, WCCI 2006, Vancouver, BC, Canada, 16-21 July 2006*, pages 3566–3571. IEEE, 2006.
- M. Filippone, F. Masulli, and S. Rovetta. Unsupervised gene selection and clustering using simulated annealing. In *Fuzzy Logic and Applications, 6th International Workshop, WILF 2005, Crema, Italy, September 15-17, 2005, Revised Selected Papers*, volume 3849 of *Lecture Notes in Computer Science*, pages 229–235. Springer, 2005.
- F. Masulli, S. Rovetta, and M. Filippone. Clustering genomic data in the membership embedding space. In *CI-BIO - Workshop on Computational Intelligence Approaches for the Analysis of Bioinformatics Data, Montreal - Canada, 5 August 2005*.
- S. Rovetta, F. Masulli, and M. Filippone. Soft rank clustering. In *Neural Nets, 16th Italian Workshop on Neural Nets, WIRN 2005, and International Workshop on Natural and Artificial Immune Systems, NAIS 2005, Vietri sul Mare, Italy, June 8-11, 2005, Revised Selected Papers*, volume 3931 of *Lecture Notes in Computer Science*, pages 207–213. Springer, 2005.



- M. Filippone, F. Masulli, and S. Rovetta. ERAF: a R package for regression and forecasting. In *Biological and Artificial Intelligence Environments*, pages 165–173, Secaucus, NJ, USA, 2004. Springer-Verlag New York, Inc.

## Discussions

- S. Rossi, C. Rusu, L. A. Rosasco, and M. Filippone. Contributed discussion on “A Bayesian conjugate gradient method”. *Bayesian Analysis*, 14(3), 2019, 10 2019.
- M. Filippone, A. Mira, and M. Girolami. Discussion of the paper: ”Sampling schemes for generalized linear Dirichlet process random effects models” by M. Kyung, J. Gill, and G. Casella. *Statistical Methods & Applications*, 20:295–297, 2011.
- M. Filippone. Discussion of the paper ”Riemann manifold Langevin and Hamiltonian Monte Carlo methods” by Mark Girolami and Ben Calderhead. *Journal of the Royal Statistical Society, Series B (Statistical Methodology)*, 73(2):164–165, 2011.
- V. Stathopoulos and M. Filippone. Discussion of the paper ”Riemann manifold Langevin and Hamiltonian Monte Carlo methods” by Mark Girolami and Ben Calderhead. *Journal of the Royal Statistical Society, Series B (Statistical Methodology)*, 73(2):167–168, March 2011.

## Theses

- M. Filippone. *Central Clustering in Kernel-Induced Spaces*. Phd thesis in computer science, University of Genova, February 2008.
- M. Filippone. *Metodi di ensemble per la previsione di serie storiche*. Master’s degree thesis in physics, University of Genova, July 2004.

## Attività Professionali

- Associate editor - Pattern Recognition
- Associate editor - IEEE Transactions on Neural Networks and Learning Systems

## Attività in qualità di Referee

- Riviste: Pattern Recognition (34), Pattern Recognition Letters (16), IEEE Transactions on Neural Networks (12), IEEE Transactions on Signal Processing (5), IEEE Signal Processing Letters (2), Computational Statistics & Data Analysis (2), IEEE Transactions on Pattern Analysis and Machine Intelligence (1), Journal of Machine Learning Research (1), Bioinformatics (1), Signal Processing (1), Computational Intelligence (1), Neural Processing Letters (1), Soft Computing (1), IEEE Transactions on Parallel and Distributed Systems (1), Statistical Applications in Genetics and Molecular Biology (1), PLOS ONE (1), EURASIP Journal on Advances in Signal Processing (1), Information Sciences (1).
- Conferenze: AISTATS 2013 (1) ICPRAM 2013 (2), PRIB 2013 (1) ICPRAM 2012 (1), PRIB 2010 (2), IJCNN 2010 (2), PRIB 2009 (4), CIBB 2009 (4), IFSA 2009 (4), IJCNN 2009 (8), CIBB 2008 (4), WCCI 2008 (3), ICDM 2007 (2), IJCNN 2007 (4), CIBB 2007 (1), IJCNN 2006 (5), CIBB 2006 (1).

## Partecipazione a Conferenze

- 30 Maggio - 1 Giugno 2012, Trondheim, Norway  
Second Workshop on Bayesian Inference for Latent Gaussian Models with Applications.  
Presentazione orale: *On the Fully Bayesian Treatment of Latent Gaussian Models using Stochastic Simulations*.
- 09 June 2011, Bologna, Italy  
Convegno intermedio SIS 2011.  
Presentazione orale: *Bayesian inference in latent variable models and applications*.
- 10-11 Dicembre 2010, Whistler, BC, Canada  
NIPS 2010 Workshops: Neural Information Processing Systems Conference.  
Presentazione del Poster: *Posterior Inference in Latent Gaussian Models Using Manifold MCMC Methods*.
- 23-26 Agosto 2010, Istanbul, Turkey  
ICPR 2010 - 20th International Conference on Pattern Recognition  
*Ho ricevuto il premio per il miglior articolo pubblicato nel 2008 sulla rivista Pattern Recognition*
- 12-14 Luglio 2010, Sheffield, United Kingdom  
UCM 2010 - Uncertainty in Computer Models 2010 conference
- 5-9 Luglio 2010, Glasgow, United Kingdom  
IWSM 2010 - 25th International Workshop on Statistical Modelling
- 3-8 Giugno 2010, Benidorm, Spain  
Ninth Valencia International Meeting on Bayesian Statistics - 2010 World Meeting of the International Society for Bayesian Analysis.  
Presentazione del Poster: *Inference for Gaussian Process Emulation of Oil Reservoir Simulation Codes*.
- 6-7 Aprile 2010, Warwick, United Kingdom  
WOGAS2 - Workshop on Geometric and Algebraic Statistics 2.
- 3-5 Marzo 2010, Edinburgh, United Kingdom  
Mixture estimation and applications.  
Presentazione del Poster: *Information Theoretic Novelty Detection for Mixtures of Gaussians*.
- 7-9 Settembre 2009, Sheffield, United Kingdom  
PRIB 2009: Pattern Recognition in Bioinformatics 2009.
- 20-21 Maggio 2009, Swansea, United Kingdom  
NCAF Meeting: Neural Computing and Applications. Special Theme - Grand Challenges in Information-Driven Healthcare.
- 15-19 Dicembre 2008, Pisa, Italy  
ICDM 2008: IEEE International Conference on Data Mining.  
Presentazione orale: *Detecting Suspicious Behavior in Surveillance Images*.
- 8-13 Dicembre 2008, Vancouver, BC, Canada  
NIPS 2008: Neural Information Processing Systems Conference.

- 9-10 Settembre 2008, Sheffield, United Kingdom  
NCAF Meeting: Neural Computing and Applications. Special Theme - Dynamics and Dynamic Systems.  
Presentazione orale: *Information Theoretic Novelty Detection*.
- 18-19 Giugno 2008, Oxford, United Kingdom  
NCAF Meeting: Neural Computing and Applications. Special Theme - Signal Processing and Biomedical Applications.
- 31 Marzo - 2 Aprile 2008, Sheffield, United Kingdom  
Data Modelling Workshops & Symposium.
- 13-17 Agosto 2007, Orlando, FL - USA  
IJCNN 2007 - International Joint Conferences on Neural Networks.  
Presentazione del Poster: *Local learning of tide level time series using a fuzzy approach*.
- 17 Agosto 2007, Orlando, FL - USA  
CI-BIO 2007 - Post-Conference Workshop on Computational Intelligence Approaches for the Analysis of Bioinformatics Data.  
Presentazione orale dell'articolo: *Aggregating Memberships in Possibilistic Biclustering*.
- 27-29 Settembre 2006, Ancona - Italy  
CISI 06 Conferenza Italiana Sistemi Intelligenti.  
Presentazione del Poster: *Input Selection with Mixed Data Sets: A Simulated Annealing Wrapper Approach*.
- 15-16 Settembre 2006, Genova - Italy  
BioLeMiD 06 - Third Bioinformatics Meeting on Machine Learning for Microarray Studies of Disease: biomarker selection.
- 29-31 Agosto 2006, Genova - Italy FLINS 2006 - 7th International FLINS Conference on Applied Artificial Intelligence.
- 28 Giugno 2006, Genova - Italy  
Workshop on Trends in Computational Sciences.
- 22 Giugno 2006, Genova - Italy  
The I LIMBS day - A free one-day workshop about intelligence.
- 21 Giugno 2006, Genova - Italy  
Second workshop on Analytic Methods for Learning Theory: Learning, Regularization and Approximation
- 15-17 Settembre 2005, Crema - Italy  
WILF 05 - International Workshop on Fuzzy Logic and Applications.  
Presentazione orale dell'articolo: *Unsupervised gene selection and clustering using simulated annealing*.
- 16-17 Giugno 2005, Genova - Italy  
CLIP 2005 - Workshop on Cross-language information processing.  
Presentazione orale dell'articolo: *Soft rank clustering*.
- 8-11 Giugno 2005, Vietri sul Mare - Italy  
WIRN 05 - XVI Italian Workshop on Neural Networks.  
Presentazione orale dell'articolo: *Soft rank clustering*.

- 14-17 Settembre 2004, Perugia - Italy  
WIRN 04 - XV Italian Workshop on Neural Networks.  
Presentazione del Poster: *ERAF: a R package for regression and forecasting.*

## Presentazioni

- 20 Ottobre, 2011, University of Glasgow - *Inference in hierarchical models using stochastic approximations.*
- 08 Febbraio, 2011, University College London (CSML seminars series) - *Calibration of Oil Reservoir Simulation Codes.*
- 24 Gennaio, 2011, University College London - *Classification of fMRI data using latent Gaussian models.*
- 12 Novembre, 2010, University of Glasgow - *Information Theoretic Novelty Detection.*
- 13 Ottobre, 2010, Royal Statistical Society - *Discussion of the paper "Riemann manifold Langevin and Hamiltonian Monte Carlo methods" by M. Girolami and B. Calderhead.*
- 26 Marzo, 2010, Liverpool John Moores University - *Information Theoretic Novelty Detection.*
- 11 Novembre, 2009, University of Edinburgh - *Information Theoretic Novelty Detection.*
- 21 Ottobre, 2009, University of Sheffield - Tutorial per il gruppo Speech and Hearing - *The probabilistic approach in data modeling.*
- 14 Luglio, 2009, Columbia University - *Information Theoretic Novelty Detection.*
- 21 Gennaio, 2009, University of Glasgow - *Information Theoretic Novelty Detection.*
- 22 Dicembre, 2008, Università di Genova - *Information Theoretic Novelty Detection.*
- 3 Marzo, 2008, Università degli Studi di Milano - *Central Clustering in Kernel-Induced Spaces.*
- 27 Febbraio, 2008, Università degli Studi di Napoli Parthenope - *Central Clustering in Kernel-Induced Spaces.*
- 27 Settembre, 2007, George Mason University - *Kernel and Spectral Methods for Clustering.*
- 15 Novembre 2006, Università di Genova - *Kernel and Spectral Methods for Clustering.*
- 21 Marzo 2006, Università di Genova - *Spectral Approach to Clustering.*
- 20 Dicembre 2005, Università di Genova - *Subsequence Matching for Time Series Forecasting.*

## Attività di Insegnamento

- 09-2013 - 12-2013  
Lecturer (30 ore) Artificial Intelligence  
Undergraduate Degree Programme - Anno 4
- 01-2013 - 04-2013  
Lecturer (30 ore) Machine Learning  
Undergraduate/Postgraduate Degree Programmes - Anno 4/5

- 09-2012 - 12-2012  
Lecturer (30 ore) Artificial Intelligence  
Undergraduate Degree Programme - Anno 4
- 10-2008  
Assistente di Laboratorio (2 ore) Bioinformatics  
Modulo di Computational Biology per MSc in Biological and Bioprocess Engineering  
Prof. Guido Sanguinetti
- 09-2005 - 12-2005  
Assistente di Laboratorio (30 ore) Reti Neurali  
IV / V anno, Corso di Laurea in Informatica - Università di Genova  
Prof. Stefano Rovetta
- 09-2005 - 12-2005  
Assistente di Laboratorio (10 ore) Soft Computing  
III anno, Corso di Laurea in Informatica - Università di Genova  
Prof. Francesco Masulli
- 09-2004 - 12-2004  
Assistente di Laboratorio (10 ore)  
Presentazione di un mini-corso sul linguaggio R (2 ore) Reti Neurali  
IV / V anno, Corso di Laurea in Informatica - Università di Genova  
Prof. Francesco Masulli