

## PUBBLICAZIONI di Angelo Alessandri

### Riviste internazionali

1. G. Yang, H. Rezaee, A. Alessandri, T. Parisini, "State estimation using a network of distributed observers with switching communication topology," *Automatica*, sotto revisione.
2. A. Alessandri, P. Bagnerini, M. Gaggero, L. Mantelli, V. Santamaria, A. Traverso, "Black-box modeling and optimal control of a two-phase flow using level set methods," *IEEE Trans. on Control Systems Technology*, accettato per la pubblicazione.
3. A. Alessandri, R. Sanfelice, "Hysteresis-based switching observers for linear systems using quadratic boundedness," *Automatica*, vol. 136, pp. 109982, 2022.
4. A. Alessandri, P. Bagnerini, M. Gaggero, D. Lengani, D. Simoni, "Detection of flow regime transitions using dynamic mode decomposition and moving horizon estimation," *IEEE Trans. on Control Systems Technology*, vol. 29, pp. 1324-1331, 2021.
5. A. Alessandri, F. Bedouhene, D. Bouhadjra, A. Zemouche, P. Bagnerini, "Observer-based control for a class of hybrid linear and nonlinear systems," *Discrete and Continuous Dynamical Systems, Series S*, vol. 14, p. 1213-1231, 2021.
6. A. Alessandri, P. Bagnerini, M. Gaggero, L. Mantelli, "Parameter estimation of fire propagation models using level set methods," *Applied Mathematical Modelling*, vol. 92, 731-747, 2021.
7. D. Astolfi, A. Alessandri, L. Zaccarian, "Stubborn and dead-zone redesign for nonlinear observers and filters," *IEEE Trans. on Automatic Control*, vol. 66, pp. 667-682, 2021.
8. A. Alessandri, F. Boem, "State observers for systems subject to bounded disturbances using quadratic boundedness," *IEEE Trans. on Automatic Control*, vol. 65, pp. 5352-5359, 2020.
9. A. Alessandri, P. Bagnerini, R. Cianci, "State observation for Lipschitz nonlinear dynamical systems based on Lyapunov functions and functionals," *Mathematics*, vol. 8, 2020.
10. H. Arezki, A. Zemouche, F. Bedouhene, A. Alessandri, "State observer design method for a class of non-linear systems," *IET Control Theory & Applications*, vol. 14, pp.1648-1655, 2020.
11. A. Alessandri, P. Bagnerini, M. Gaggero, A. Rossi, "State and observer-based feedback control of normal flow equations," *Automatica*, vol. 117, pp. 108980, 2020.
12. A. Alessandri, M. Gaggero, "Fast moving horizon state estimation for linearly constrained discrete-time systems," *Int. Journal of Adaptive Control and Signal Processing*, vol. 34, pp. 706-720, 2020.
13. A. Alessandri, G. Battistelli, "Moving horizon estimation: Open problems, theoretical progress, and new application perspectives," *Int. Journal of Adaptive Control and Signal Processing*, vol. 34, pp. 703-705, 2020.
14. A. Alessandri, "Lyapunov functions for state observers of dynamic systems using Hamilton-Jacobi inequalities," *Mathematics*, vol. 8, 2020.
15. A. Alessandri, "On Hamilton-Jacobi approaches to state reconstruction for dynamic systems," *Advances in Mathematical Physics*, vol. 2020, 2020.
16. A. Alessandri, P. Bagnerini, R. Cianci, S. Donnarumma, A. Taddeo, "Stabilization of diffusive systems using backstepping and the circle criterion," *Int. Journal of Heat and Mass Transfer*, vol. 149, pp. 1-10, 2020.
17. A. Alessandri, P. Bagnerini, R. Cianci, R. Revetria, "Transport and balance equations with boundary values problems for modeling and estimation of thermal flows," *Advances in Mathematical Physics*, vol. 20, 2020.
18. A. Alessandri, P. Bagnerini, R. Cianci, M. Gaggero, "Optimal propagating fronts using Hamilton-Jacobi equations," *Mathematics*, vol. 7, 2019.

19. A. Alessandri, S. Donnarumma, M. Martelli, S. Vignolo, "Motion control for autonomous navigation in blue and narrow waters using switched controllers," *Journal of Marine Science and Engineering*, vol. 7, 196, 2019.
20. G. Casadei, D. Astolfi, A. Alessandri, L. Zaccarian, "Synchronization in networks of identical nonlinear systems via dynamic dead zones," *IEEE Control Systems Letters*, vol. 3, pp. 667-672, 2019.
21. A. Alessandri, P. Bagnerini, M. Gaggero, D. Lengani, D. Simoni, "Dynamic mode decomposition for the inspection of three-regime separate transitional boundary layers using a least squares method," *Physics of Fluids*, vol. 31, pp. 044103-1-044103-13, 2019.
22. A. Alessandri, P. Bagnerini, M. Gaggero, "Optimal control of propagating fronts by using level set methods and neural approximations," *IEEE Trans. on Neural Networks and Learning Systems*, vol. 30, pp. 902-912, 2019.
23. A. Alessandri, L. Zaccarian, "Stubborn state observers for linear time-invariant systems," *Automatica*, vol. 88, pp. 1-9, 2018.
24. M. Dureau, A. Alessandri, P. Bagnerini, S. Vincent, "Modeling and identification of Amnioserosa cell mechanical behavior by using mass-spring lattices," *IEEE/ACM Trans. on Computational Biology and Bioinformatics*, vol. 14, pp. 1476-1481, 2017.
25. A. Alessandri, M. Gaggero, "Fast moving horizon state estimation for discrete-time systems using single and multi iteration descent methods," *IEEE Trans. on Automatic Control*, vol. 62, pp. 4499-4511, 2017.
26. A. Alessandri, M. Awawdeh, "Moving-horizon estimation with guaranteed robustness for discrete-time linear systems and measurements subject to outliers," *Automatica*, vol. 67, pp. 85-93, 2016.
27. A. Alessandri, A. Rossi, "Increasing-gain observers for nonlinear systems: stability and design," *Automatica*, vol. 57, pp. 180-188, 2015.
28. H. Kheloufi, F. Bedouhene, A. Zemouche, A. Alessandri, "Observer-based stabilisation of linear systems with parameter uncertainties by using enhanced LMI conditions," *Int. Journal of Control*, vol. 88, pp. 1189-1200, 2015.
29. A. Alessandri, A. Rossi, "Time-varying increasing-gain observers for nonlinear systems," *Automatica*, vol. 49, pp. 2845-2852, 2013.
30. A. Alessandri, C. Cervellera, M. Gaggero, "Predictive control of container flows in maritime intermodal terminals," *IEEE Trans. on Control Systems Technology*, vol. 21, pp. 1423-1431, 2013.
31. A. Alessandri, M. Baglietto, G. Battistelli, "Min-max moving-horizon estimation for uncertain discrete-time linear systems," *SIAM Journal on Control and Optimization*, vol. 50, pp. 1439-1465, 2012.
32. A. Alessandri, M. Gaggero, R. Zoppoli, "Feedback optimal control of distributed parameter systems by using finite-dimensional approximation schemes," *IEEE Trans. on Neural Networks and Learning Systems*, vol. 23, pp. 984-996, 2012.
33. A. Alessandri, M. Gaggero, F. Tonelli, "Min-max and predictive control for the management of distribution in supply chains," *IEEE Trans. on Control Systems Technology*, vol. 19, pp. 1075-1089, 2011.
34. A. Alessandri, M. Baglietto, G. Battistelli, M. Gaggero, "Moving-horizon state estimation for nonlinear systems using neural networks," *IEEE Trans. on Neural Networks*, vol. 22, pp. 768-780, 2011.
35. A. Alessandri, M. Baglietto, G. Battistelli, "A maximum-likelihood Kalman filter for switching discrete-time linear systems," *Automatica*, vol. 46, pp. 1870-1876, 2010.
36. A. Alessandri, G. Gnecco, M. Sanguineti, "Minimizing sequences for a family of functional optimal estimation problems," *Journal of Optimization Theory and Applications*, vol. 147, pp. 243-262, 2010.

37. A. Alessandri, C. Cervellera, D. Macciò, M. Sanguineti, "Optimization based on quasi-Monte Carlo sampling to design state estimators for non-linear systems," *Optimization*, vol. 59, pp. 963–984, 2010.
38. A. Alessandri, R. Bolla, M. Gaggero, M. Repetto, "Modeling and identification of nonlinear dynamics for freeway traffic by using information from a mobile cellular network," *IEEE Trans. on Control Systems Technology*, vol. 17, pp. 952-959, 2009.
39. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, G. Soncin, "Management of logistics operations in intermodal terminals by using dynamic modelling and nonlinear programming," *Maritime Economics & Logistics*, vol. 11, pp. 58–76, 2009.
40. A. Alessandri, L. Cassettari, R. Mosca, "Nonparametric nonlinear regression using polynomial and neural approximators: a numerical comparison," *Computational Management Science*, vol. 6, pp. 5-24, 2009.
41. A. Alessandri, M. Cuneo, M. Sanguineti, "Optimization of connectionistic models with exponentially bounded error," *Int. Journal of Computational Intelligence in Control*, vol. 1, pp. 113-122, 2009.
42. A. Alessandri, G. Gnecco, M. Sanguineti, "Computationally efficient approximation schemes for functional optimization," *Int. Journal of Computer Research*, vol. 17, pp. 153-189, 2008 (cross-published in "Computational Optimization: New Research Developments," F. Columbus, Ed. Nova Science Publishers, 2010).
43. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, G. Soncin, "Modeling and feedback control for resource allocation and performance analysis in container terminals," *IEEE Trans. on Intelligent Transportation Systems*, vol. 9, pp. 601-614, 2008.
44. A. Alessandri, M. Baglietto, G. Battistelli, "Moving-horizon state estimation for nonlinear discrete-time systems: new stability results and approximation schemes," *Automatica*, vol. 44, pp. 1753-1765, 2008.
45. A. Alessandri, M. Baglietto, G. Battistelli, "Luenberger observers for switching discrete-time linear systems," *Int. Journal of Control*, vol. 80, pp. 1931–1943, 2007.
46. A. Alessandri, M. Cuneo, S. Pagnan, M. Sanguineti, "A recursive algorithm for nonlinear least-squares problems," *Computational Optimization and Applications*, vol. 38, pp. 195-216, 2007.
47. A. Alessandri, M. Sanguineti, "Connections between  $L_p$  stability and asymptotic stability of nonlinear switched systems," *Nonlinear Analysis: Hybrid Systems*, vol. 1, pp. 501–509, 2007.
48. A. Alessandri, C. Cervellera, M. Sanguineti, "Functional optimal estimation problems and their solution by nonlinear approximation schemes," *Journal of Optimization Theory and Applications*, vol. 134, pp. 445-466, 2007.
49. A. Alessandri, S. Sacone, S. Siri, "Modelling and optimal receding-horizon control of maritime container terminals," *Journal of Mathematical Modelling and Algorithms*, vol. 6, pp. 109-133, 2007.
50. A. Alessandri, M. Sanguineti, "Input-output stability for optimal estimation problems," *International Mathematical Forum*, vol. 2, pp. 593-617, 2007.
51. A. Alessandri, C. Cervellera, M. Sanguineti, "Design of asymptotic estimators: an approach based on neural networks and nonlinear programming," *IEEE Trans. on Neural Networks*, vol. 18, p. 86-96, 2007.
52. A. Alessandri, M. Baglietto, G. Battistelli, "Design of state estimators for uncertain linear systems using quadratic boundedness," *Automatica*, vol. 42, pp. 497-502, 2006.
53. A. Alessandri, M. Baglietto, G. Battistelli, "Receding-horizon estimation for switching discrete-time linear systems," *IEEE Trans. on Automatic Control*, vol. 50, pp. 1736-1748, 2005.
54. A. Alessandri, M. Baglietto, G. Battistelli, "Robust receding-horizon state estimation for uncertain discrete-time linear systems," *Systems & Control Letters*, vol. 54, pp. 627-643, 2005.

55. A. Alessandri, M. Sanguineti, "Optimization of approximating networks for optimal fault diagnosis," *Optimization Methods and Software*, vol. 20, pp.235-260, 2005.
56. A. Alessandri, M. Baglietto, G. Battistelli, "On estimation error bounds for receding-horizon filters using quadratic boundedness," *IEEE Trans. on Automatic Control*, vol. 49, pp. 1350-1355, 2004.
57. A. Alessandri, "Fault diagnosis for nonlinear systems using a bank of neural estimators," *Computers in Industry*, vol. 52, pp. 271-289, 2003.
58. A. Alessandri, M. Baglietto, G. Battistelli, "Receding-horizon estimation for discrete-time linear systems," *IEEE Trans. on Automatic Control*, vol. 48, pp. 473-478, 2003.
59. A. Alessandri, "Sliding-mode estimators for a class of nonlinear systems affected by bounded disturbances," *Int. Journal of Control*, vol. 76, pp. 226-236, 2003.
60. A. Alessandri, M. Sanguineti, M. Maggiore, "Optimization-based learning with bounded error for feedforward neural networks," *IEEE Trans. on Neural Networks*, vol. 13, pp. 261-273, 2002.
61. A. Alessandri, T. Parisini, R. Zoppoli, "Sliding-window neural state estimation in a power plant heater line," *Int. Journal of Adaptive Control and Signal Processing* vol. 15, pp. 815-836, 2001.
62. A. Alessandri, M. Baglietto, T. Parisini, R. Zoppoli, "Neural state estimators with bounded errors for nonlinear systems," *IEEE Trans. on Automatic Control*, vol. 44, pp. 2028-2042, 1999.
63. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Nonlinear optimization for freeway control using variable-speed signalling," *IEEE Trans. on Vehicular Technology*, vol. 48, pp. 2042-2052, 1999.
64. A. Alessandri, M. Caccia, G. Veruggio, "Fault detection of actuator faults in unmanned underwater vehicles," *IFAC Control Engineering Practice*, vol. 7, pp. 357-368, 1999.
65. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Optimal control of freeways via speed signalling and ramp-metering," *IFAC Control Engineering Practice*, vol. 6, pp. 771-780, 1998.
66. A. Alessandri, T. Parisini, R. Zoppoli, "Neural approximations for nonlinear finite-memory state estimation," *Int. Journal of Control*, vol. 67, pp. 275-302, 1997.
67. A. Alessandri, T. Parisini, "Nonlinear modelling of complex large-scale plants using neural networks and stochastic approximation," *IEEE Trans. on Systems, Man and Cybernetics-Part A: Systems and Humans*, vol. 27, pp. 750-757, 1997.

### **Recensione di libri**

1. A. Alessandri, "Adaptive Neural Network Control of Robotic Manipulators," by S. S. Ge, T. H. Lee, and C. J. Harris, *Automatica*, vol. 40, pp.2011-2012, 2004.

### **Capitoli di libri**

1. A. Alessandri, P. Bagnnerini, R. Cianci, M. Gaggero, "Optimal control of level sets generated by the normal flow equation," *Theory, Numerics and Applications of Hyperbolic Problems I*, HYP 2016, C. Klingenberg and M. Westdickenberg M. (Eds.), vol. 236, pp. 29-41, Springer-Verlag, 2018.
2. A. Alessandri, S. Donnarumma, S. Vignolo, M. Figari, M. Martelli, R. Chiti, L. Sebastiani, "System control design of autopilot and speedpilot for a patrol vessel by using LMIs,"

- Towards Green Marine Technology and Transport*, CRC Press, C.G. Soares, R. Dejhalla, D. Pavletic (Eds.), pp. 577-584, 2015.
3. A. Alessandri, R. Filippini, "Evaluation of resilience of interconnected systems based on stability analysis," *CRITIS 2012*, B. Hämmerli, N. Kalstad Svendsen, and J. Lopez (Eds.), *Lecture Notes in Computer Sciences*, vol. 7722, pp. 180-190, Springer-Verlag, 2013.
  4. A. Alessandri, M. Cuneo, M. Sanguineti, "An algorithm for nonlinear least-squares: exponential boundedness and numerical results," *Advances in Mathematical Problems in Engineering and Aerospace Sciences* *Mathematical Problems in Engineering and Aerospace Sciences*, S. Sivasundaram Editor, Cambridge Scientific Publishers, pp. 319-329, 2009.
  5. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, "Nonlinear model predictive control for resource allocation in the management of intermodal container terminals," L. Magni et al. (Eds.): *Nonlinear Model Predictive Control – Towards New Challenging Applications*, *Lecture Notes in Control and Information Sciences*, Springer-Verlag, vol. 384, pp. 205-213, 2009.
  6. A. Alessandri, M. Baglietto, G. Battistelli, "Minimum-distance receding-horizon state estimation for switching discrete-time linear systems," in *Assessment and Future Directions of Nonlinear Model Predictive Control*, R. Findeisen, F. Allgower, and L. Biegler, (Eds.), *Lecture Notes in Control and Information Sciences*, Springer-Verlag, vol. 358, pp. 347–358, 2007.
  7. A. Alessandri, P. Coletta, T. Parisini, "Model-Based Fault Detection in a High-Pressure Heater Line," *Thermal Power Plant Simulation and Control*, D. Flynn Editor, IEE Power and Energy Series, IEE, vol. 43, pp. 269-308, 2003.
  8. A. Alessandri, P. Coletta, "Design of Luenberger observers for a class of hybrid linear systems," in *Hybrid Systems: Computation and Control*, M. D. Di Benedetto, A. Sangiovanni-Vincentelli (Eds.), *Lecture Notes in Computer Science*, Springer-Verlag, vol. 2034, pp. 7-18, 2001.

#### **Articoli su riviste a diffusione nazionale**

1. A. Alessandri, E. Punta, "Traffico autostradale: ottimizzazione con segnalazioni variabili di velocità," *Automazione e Strumentazione*, Anno XLV, No. 6, pp. 119-126, Giugno, 1997.

#### **Comunicazioni in conferenze internazionali in sessioni ad invito**

1. A. Alessandri, P. Bagnerini, C. Carmeli, M. Gaggero, D. Lengani, D. Simoni, "On-line mode decomposition of fluid flows using moving horizon estimation," *Proc. 58th IEEE Conference on Decision and Control*, pp. 2163-2168, Nice, France, 2019.
2. A. Alessandri, P. Bagnerini, M. Gaggero, D. Lengani, D. Simoni, "Moving horizon trend identification based on switching models for data driven decomposition of fluid flow," *Proc. 57th IEEE Conference on Decision and Control*, pp. 2138-2143, Miami Beach, FL, USA, 2018.
3. A. Alessandri, P. Bagnerini, M. Gaggero, A. Rossi, "Feedback control on the velocity field and source term of a normal flow equation," *Proc. American Control Conference*, pp. 1714-1719, Milwaukee, USA, 2018.
4. A. Alessandri, P. Bagnerini, M. Gaggero, "Parameter identification of the normal flow equation by using adaptive estimation," *Proc. American Control Conference*, pp. 3177-3182, Seattle, USA, 2017.

5. A. Alessandri, P. Bagnnerini, M. Gaggero, "Extended Kalman filtering to design optimal controllers of fronts generated by level set methods," *Proc. 55th Conference on Decision and Control*, pp. 3966-3971, Las Vegas, USA, 2016.
6. A. Alessandri, P. Bagnnerini, M. Gaggero, "Optimal control of level sets dynamics," *Proc. American Control Conference*, pp. 2208-2213, Portland, Oregon, 2014.
7. A. Alessandri, P. Bagnnerini, M. Gaggero, "Optimal control of PDE-based systems by using a finite-dimensional approximation scheme," *Proc. American Control Conference*, pp. 1280-1285, Washington D.C., USA, 2013.
8. A. Alessandri, P. Bagnnerini, M. Gaggero, M. Ghio, R. Martinelli, "Design specifications of an UAV for environmental monitoring, safety, video surveillance, and urban security," *Safecity Euro-Med*, Genova, Italia, 2011.
9. A. Alessandri, M. Cuneo, M. Sanguineti, "An algorithm for nonlinear least-squares: exponential boundedness numerical results," *6th International Conference on Mathematical Problems in Engineering and Aerospace Sciences*, Budapest, Hungary, 2006.
10. A. Alessandri, C. Cervellera, F. Grassia, "Optimal neural feedback control for carbon tax policy gauging in transportation," *Proc. 20th International Conference of the System Dynamics Society*, Palermo, Italy, 2002.
11. A. Alessandri, M. Baglietto, T. Parisini, "Robust model-based fault diagnosis using neural nonlinear estimators," *Proc. 37th IEEE Conf. on Decision and Control*, Tampa, FL, pp. 72-77, 1998.
12. A. Alessandri, M. Caccia, G. Veruggio, "Model-based actuator fault diagnosis in unmanned underwater vehicles," *Second International Workshop on Fault Detection and Compensation*, Denver, Colorado, 1998.
13. A. Alessandri, T. Parisini, "Model-based fault diagnosis using neural estimators," *Second International Workshop on Fault Detection and Compensation*, Denver, Colorado, 1998.
14. T. Parisini, A. Alessandri, M. Maggiore, R. Zoppoli, "On convergence of neural approximate nonlinear state estimators," *Proc. American Control Conference*, Albuquerque, NM, pp. 1819-1822, 1997.
15. A. Alessandri, T. Parisini, "Model-based fault diagnosis using nonlinear estimators: a neural approach," *Proc. American Control Conference*, Albuquerque, NM, pp. 903-907, 1997.
16. A. Alessandri, N. Bonavita, T. Parisini, "Nonlinear modelling and fault-detection in a power plant using neural networks," *Proc. 2nd European Workshop on Fuzzy Decision Analysis and Neural Networks for Management, Planning and Optimization*, Dortmund, Germany, pp. 146-151, 1997.
17. A. Alessandri, M. Barabino, T. Parisini, "Nonlinear models for fault detection and condition monitoring using neural networks," *Proc. Automation 1996 Conference*, Milano, Italy, pp. 722-740, 1996.

### **Comunicazioni in conferenze internazionali**

1. D. Bouhadjra, A. Alessandri, P. Bagnnerini, F. Bedouhene, A. Zemouche, "Modeling and estimation of Amnioserosa cell mechanical behavior using moving horizon estimation," *Proc. American Control Conference*, pp. 1579-1584, New Orleans, USA, 2021.
2. B. Piaggio, V. Garofano, S. Donnarumma, A. Alessandri, R.R. Negenborn, M. Martelli, "Follow-the-leader control strategy for azimuth propulsion system on surface vessels," *International Ship Control Systems Symposium (iSCSS) 2020, INEC2020*, Delft, Nederland, 2020.

3. D. Bouhadjra, A. Zemouche, A. Alessandri, P. Bagnerini, "High-gain nonlinear observer using system state augmentation," *Proc. 59th IEEE Conference on Decision and Control*, Jeju Island, Republic of Korea, pp. 4182-4187, 2020.
4. G. Casadei, D. Astolfi, A. Alessandri, L. Zaccarian, "Synchronization in networks of identical nonlinear systems via dynamic dead zone," *Proc. 58th IEEE Conference on Decision and Control*, pp. 2078-2083, Nice, France, 2019.
5. G. Casadei, D. Astolfi, A. Alessandri, L. Zaccarian, "Synchronization of interconnected linear systems via dynamic saturation redesign," *Proc. 11th IFAC Symposium on Nonlinear Control Systems, (Joint Mechatronics 2019 & NolCoS 2019)*, Vienna, Austria, pp. 622-627, 2019.
6. Alessandri, F. Boem, T. Parisini, "Model-based fault detection and estimation for linear time invariant and piecewise affine systems by using quadratic boundedness," *Proc. 57th IEEE Conference on Decision and Control*, pp. 5562-5567, Miami Beach, FL, USA, 2018.
7. A. Alessandri, P. Bagnerini, M. Gaggero, L. Mantelli, V. Santamaria, A. Traverso, "Black-box modeling and optimal control of a two-phase flow by using Navier-Stokes equations and level set methods," *Proc. American Control Conference*, pp. 3429-3434, Milwaukee, USA, 2018.
8. A. Alessandri, M. Gaggero, "Moving horizon state estimation for constrained discrete-time systems by using fast descent methods," *Proc. 56th IEEE Conference on Decision and Control*, pp. 2176-2181, Melbourne, Australia, 2017.
9. D. Astolfi, A. Alessandri, L. Zaccarian, "Stubborn ISS redesign for nonlinear high-gain observers," *20th IFAC World Congress*, pp. 15992-15997, Toulouse, France, 2017.
10. A. Alessandri, P. Bagnerini, M. Gaggero, "Extended Kalman filtering to design optimal controllers of fronts generated by level set methods," *Proc. 55th Conference on Decision and Control*, pp. 3966-3971, Las Vegas, USA, 2016.
11. A. Alessandri, D. Percivale, R. Van der Putten, "Optimal control of parallel buffers by using output feedback based on practical observers," *Proc. 55th Conference on Decision and Control*, pp. 5422-5427, Las Vegas, USA, 2016.
12. A. Alessandri, M. Gaggero, "Moving-horizon estimation for discrete-time linear and nonlinear systems using the gradient and Newton methods," *Proc. 55th Conference on Decision and Control*, pp. 2906-2911, Las Vegas, USA, 2016.
13. A. Alessandri, A. Zemouche, "On the enhancement of high-gain observers for state estimation of nonlinear systems," *Proc. 55th Conference on Decision and Control*, pp. 6278-6283, Las Vegas, USA, 2016.
14. A. Alessandri, P. Bagnerini, M. Gaggero, A. Traverso, "Further results on the optimal control of fronts generated by level set methods," *Proc. American Control Conference*, pp. 5225-5230, Boston, Massachusetts, 2016.
15. S. Donnarumma, L. Zaccarian, A. Alessandri, S. Vignolo, "Anti-windup synthesis of heading and speed regulators for ship control with actuator saturation," *Proc. European Control Conference*, pp. 1284-1290, Aalborg, Denmark, 2016.
16. A. Taddeo, A. Alessandri, P. Bagnerini, S. Donnarumma, "Backstepping-based stabilization of the pool-boiling system: an application of the circle criterion," *Proc. European Control Conference*, pp. 283-288, Aalborg, Denmark, 2016.
17. A. Alessandri, A. Rossi, "Adaptive state estimation for nonlinear systems based on the increasing-gain observer," *Proc. 54th IEEE Conference on Decision and Control*, pp. 7004-7009, Osaka, Japan, 2015.
18. A. Alessandri, S. Donnarumma, S. Vignolo, M. Figari, M. Martelli, R. Chiti, L. Sebastiani, "System control design of autopilot and speed pilot for a patrol vessel by using LMIs," *16th International Congress of the Maritime International Association of the Mediterranean, IMAM 2015*, pp. 577-584, Pula, Croatia, 2015.

19. A. Alessandri, L. Zaccarian, "Results on stubborn Luenberger observers for linear time-invariant plants," *Proc. European Control Conference 2015*, pp. 2925-2930, Linz, Austria, 2015.
20. A. Alessandri, G. Gaggero, F. Tonelli, "Robust predictive control for the management of multi-echelon distribution chains," *Proc. 53rd IEEE Conference on Decision and Control*, pp. 6459-6464, Los Angeles, California, USA, 2014.
21. A. Alessandri, A. Zemouche, "A new LMI condition for decentralized observer-based control of linear systems with nonlinear interconnections," *Proc. 53rd IEEE Conference on Decision and Control*, pp. 3125-3130, Los Angeles, California, USA, 2014.
22. A. Alessandri, M. Awawdeh, "Moving-horizon estimation for discrete-time linear systems with measurements subject to outliers," *Proc. 53rd IEEE Conference on Decision and Control*, pp. 2591-2596, Los Angeles, California, USA, 2014.
23. A. Alessandri, F. Bedouhene, H. Kheloufi, A. Zemouche, "Output feedback control for a class of switching discrete-time linear systems," *Proc. 53rd IEEE Conference on Decision and Control*, pp. 1533-1538, Los Angeles, California, USA, 2014.
24. A. Alessandri, S. Donnarumma, G. Luria, M. Martelli, S. Vignolo, R. Chiti, L. Sebastiani, "Dynamic positioning of a vessel with standard propulsion configuration: modeling and simulation," *2nd International Conference on Maritime Technology and Engineering - MARTECH 2014*, pp. 725-733, Lisbon, Portugal, 2014.
25. A. Alessandri, F. Bedouhene, H. Kheloufi, A. Zemouche, "Output feedback control for discrete-time linear systems by using Luenberger observers under unknown switching," *Proc. 52nd IEEE Conference on Decision and Control*, pp. 5321-5326, Firenze, Italy, 2013.
26. A. Alessandri, A. Rossi, "On increasing-gain observers for nonlinear continuous-time systems," *Proc. 52nd IEEE Conference on Decision and Control*, pp. 3957-3962, Firenze, Italy, 2013.
27. H. Kheloufi, F. Bedouhene, A. Zemouche, A. Alessandri, "Convex optimization approach to observer-based stabilization of linear systems with parameter uncertainties," *Proc. 52nd IEEE Conference on Decision and Control*, pp. 1125-1130, Firenze, Italy, 2013.
28. A. Alessandri, "Design of time-varying state observers for nonlinear systems by using input-to-state stability," *Proc. American Control Conference*, pp. 280-285, Washington D.C., USA, 2013.
29. A. Alessandri, R. Filippini, "An approach to resilience of interconnected systems based on stability analysis," *CRITIS 2012 - 7th International Conference on Critical Information Infrastructure Security*, pp. 317-327, Lillehammer, Norway, 2012.
30. A. Alessandri, G. Gaggero, F. Tonelli, "Optimal and predictive control of distribution chains by using integer tree-based search and mixed-integer programming," *4th IFAC Nonlinear Model Predictive Control Conference*, Noordwijkerhout, The Netherlands, pp. 238-244, 2012.
31. A. Alessandri, P. Bagnnerini, M. Gaggero, M. Ghio, "Optimal control of level set dynamics via a finite-dimensional approximation scheme," *14th International Conference on Hyperbolic Problems: Theory, Numerics, Applications*, Padova, Italy, 2012.
32. A. Alessandri, G. Gaggero, F. Tonelli, "Integer tree-based search and mixed-integer optimal control of distribution chains," *Proc. 50th IEEE Conference on Decision and Control and European Control Conference*, Orlando, Florida, pp. 489-494, 2011.
33. A. Alessandri, D. Percivale, "Rate-based optimal control of priority traffic using a deterministic fluid model," *Proc. 18th IFAC World Congress*, Milano, Italy, pp. 11477-11482, 2011.
34. A. Alessandri, M. Baglietto, G. Battistelli, V.M. Zavala, "Advances in moving horizon estimation for nonlinear systems," *Proc. 49th IEEE Conference on Decision and Control*, Atlanta, GA, USA, pp. 5681-5688, 2010.



35. A. Alessandri, M. Baglietto, G. Battistelli, V.M. Zavala, "Computationally efficient, approximate moving horizon state estimation for nonlinear systems," *Proc. 8th IFAC Symposium on Nonlinear Control Systems*, Bologna, Italy, pp. 759-764, 2010.
36. A. Alessandri, R. Cianci, M. Gaggero, R. Zoppoli, "Approximate solution of feedback optimal control problems for distributed parameter systems," *Proc. 8th IFAC Symposium on Nonlinear Control Systems*, Bologna, Italy, pp. 987-992, 2010.
37. A. Alessandri, M. Cuneo, E. Punta, "Sliding-mode state observers for multi-output nonlinear systems with bounded noises on dynamics and measurements," *Proc. 48th IEEE Conference on Decision and Control*, Shanghai, P.R. China, pp. 7729-7734, 2009.
38. A. Alessandri, M. Baglietto, G. Battistelli, "Maximum-likelihood Kalman filtering for switching discrete-time linear systems," *Proc. 47th IEEE Conference on Decision and Control*, Cancun, Mexico, pp. 3192-3198, 2008.
39. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, "Nonlinear predictive control for the management of container flows in maritime intermodal terminals," *Proc. 47th IEEE Conference on Decision and Control*, Cancun, Mexico, pp. 2800-2805, 2008.
40. A. Alessandri, M. Baglietto, G. Battistelli, R. Zoppoli, "Moving-horizon state estimation for nonlinear systems using neural networks," *Proc. 47th IEEE Conference on Decision and Control*, Cancun, Mexico, pp. 2557-2562, 2008.
41. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, "Nonlinear model predictive control for resource allocation in the management of intermodal container terminals," *Int. Workshop on Assessment and Future Directions of Nonlinear Model Predictive Control, NMPC'08*, Pavia, Italy, 2008.
42. A. Alessandri, S. Grillo, S. Massucco, F. Silvestro, "Static security assessment of electrical power systems using neural classification techniques," *Int. Conference on Mathematical Problems in Engineering, Aerospace and Sciences, ICNPAA*, Genova, Italy, 2008.
43. A. Alessandri, R. Bolla, M. Gaggero, M. Repetto, "Identification of freeway traffic dynamics using fluid and black-box nonlinear models," *Proc. 46th IEEE Conference on Decision and Control*, New Orleans, LA, pp. 2962-2967, 2007.
44. A. Alessandri, A.F. Grassia, E. Punta, "Sliding-mode state observers for a class of nonlinear continuous-time systems," *Proc. American Control Conference*, New York, USA, pp. 5857-5862, 2007.
45. A. Alessandri, M. Baglietto, G. Battistelli, "Design of observers with commutation-dependent gains for linear switching systems," *Proc. American Control Conference*, New York, USA, pp. 2090-2095, 2007.
46. A. Alessandri, A.F. Grassia, E. Punta, "Sliding-mode state estimation for a class of multi-output nonlinear continuous-time systems," *Proc. European Control Conference*, Kos, Greece, pp. 3325-3380, 2007.
47. A. Alessandri, M. Baglietto, G. Battistelli, "Robust receding-horizon estimation for uncertain discrete-time linear systems via semidefinite programming," *Proc. European Control Conference*, Kos, Greece, pp. 3331-3336, 2007.
48. A. Alessandri, M. Baglietto, G. Battistelli, "Mode estimation techniques for switching discrete-time linear systems," *1st IFAC Workshop on Dependable Control of Discrete Systems*, Cachan-Paris, France, 2007.
49. A. Alessandri, C. Cervellera, D. Macciò, M. Sanguineti, "Design of parameterized state observers and controllers for a class of nonlinear continuous-time systems," *Proc. 45th IEEE Conference on Decision and Control*, pp. 5388-5393, San Diego, CA, 2006.
50. A. Alessandri, R. Bolla, M. Repetto, "Identification of parameters for estimation of freeway traffic using information from a mobile cellular network," *11th IFAC Symposium on Control in Transportation Systems*, Delft, Olanda, 2006.

51. A. Alessandri, C. Cervellera, M. Cuneo, A.F. Grassia, G. Soncin, "Model-based feedback control of container handling in intermodal terminals," *11th IFAC Symposium on Control in Transportation Systems*, Delft, Olanda, 2006.
52. A. Alessandri, S. Grillo, S. Massucco, F. Silvestro, G. Vimercati, "ANN application for on-line power system security assessment," *PMAPS 2006, 9th International Conference on Probabilistic Methods Applied to Power Systems*, Stockholm, Sweden, 2006.
53. A. Alessandri, M. Cuneo, M. Sanguineti, "A least-squares algorithm for nonlinear regression: error analysis and numerical results," *APMOD 2006, Applied Mathematical Programming and Modelling Conference*, Madrid, Spagna, 2006.
54. A. Alessandri, R. Bolla, A.F. Grassia, M. Repetto, "Identification of freeway macroscopic models using information from mobile phones," *Proc. American Control Conference*, pp. 3801-3806, Minneapolis, MN, 2006.
55. Alessandri, S. Sacone, S. Siri, "Optimal control of maritime container terminals for tactical-operational planning," *ODYSSEUS 2006, 3rd International Workshop on Freight Transportation and Logistics*, pp.23-25, Altea, Spain, 2006.
56. A. Alessandri, M. Baglietto, G. Battistelli, "Robust receding-horizon estimation for discrete-time linear systems in the presence of bounded uncertainties," *Proc. 44th IEEE Conference on Decision and Control and 2005 European Control Conference*, pp. 4269-4274, Seville, Spain, 2005.
57. A. Alessandri, M. Baglietto, G. Battistelli, "Luenberger observers for switching discrete-time linear systems," *Proc. 44th IEEE Conference on Decision and Control*, pp. 7014-7019, Seville, Spain, 2005.
58. A. Alessandri, M. Baglietto, G. Battistelli, "Moving-horizon estimation for switching discrete-time linear systems," *International Workshop on Assessment and Future Directions of Nonlinear Model Predictive Control (NMPC'05)*, Freudenstadt-Lauterbad, Germany, 2005.
59. A. Alessandri, C. Cervellera, A.F. Grassia, M. Sanguineti, "On optimal estimation problems for nonlinear systems and their approximate solution," *16th IFAC World Congress*, Prague, Czech Republic, 2005.
60. A. Alessandri, C. Cervellera, A.F. Grassia, M. Sanguineti, "An approximate solution to optimal  $L_p$  state estimation problems," *Proc. American Control Conference*, pp. 4204-4209, Portland, Oregon, USA, 2005.
61. A. Alessandri, "Observer design for nonlinear systems by using input-to-state stability," *Proc. 43rd IEEE Conference on Decision and Control*, pp. 3892-3897, Nassau, Bahamas, 2004.
62. A. Alessandri, M. Baglietto, G. Battistelli, "Receding-horizon estimation for switching discrete-time linear systems," *Proc. 43rd IEEE Conference on Decision and Control*, pp. 2094-2099, Nassau, Bahamas, 2004.
63. A. Alessandri, M. Baglietto, G. Battistelli, T. Parisini, "New convergence conditions for receding-horizon state estimation of nonlinear discrete-time systems," *Proc. 43rd IEEE Conference on Decision and Control*, pp. 1902-1907, Nassau, Bahamas, 2004.
64. A. Alessandri, "Design of observers for Lipschitz nonlinear systems using LMI," *Proc. 6th IFAC Symposium on Nonlinear Control Systems*, pp. 603-608, Stuttgart, Germany, 2004.
65. A. Alessandri, S. Sacone, S. Siri, "Management of intermodal container terminals using feedback control," *Proc. 7th International IEEE Conference on Intelligent Transportation Systems*, Washington, USA, pp. 882-887, 2004.
66. A. Alessandri, M. Baglietto, G. Battistelli, "A minimax receding-horizon estimator for uncertain discrete-time linear systems," *Proc. American Control Conference*, pp. 205-210, Boston, Massachusetts, USA, 2004.

67. A. Alessandri, C. Cervellera, A. F. Grassia, M. Sanguineti, "Design of observers for continuous-time nonlinear systems using neural networks," *Proc. American Control Conference*, pp. 2433-2438, Boston, Massachusetts, USA, 2004.
68. A. Alessandri, M. Cuneo, M. Sanguineti, "A nonlinear programming algorithm for neural-network learning based on the Kalman filter," *Mathematical Methods for Learning*, Villa Geno, Como, Italy, 2004.
69. A. Alessandri, S. Sacone, S. Siri, "Receding-horizon optimal control for container transfer in intermodal terminals," *5th Triennial Symposium on Transportation Analysis*, Le Gosier, Guadeloupe, French West Indies, 2004.
70. A. Alessandri, M. Cuneo, S. Pagnan, M. Sanguineti, "On the convergence EKF-based parameters optimization for neural networks," *Proc. 42nd IEEE Conference on Decision and Control*, pp. 6181-6186, Maui, Hawaii, USA, 2003.
71. A. Alessandri, M. Baglietto, G. Battistelli, T. Parisini, "Receding-horizon estimation for nonlinear discrete-time systems," *Proc. 42nd IEEE Conference on Decision and Control*, pp. 5825-5830, Maui, Hawaii, USA, 2003.
72. A. Alessandri, R. Bolla, M. Repetto, S. Trucco, "A model of freeway traffic based on wireless ADS information network," *10th World Congress and Exhibition on Intelligent Transport Systems and Services*, Madrid, Spain, 2003.
73. A. Alessandri, M. Baglietto, G. Battistelli, "Robust receding-horizon estimation for uncertain discrete-time linear systems," *European Control Conference 2003*, Cambridge, UK, 2003.
74. A. Alessandri, G. Cirimele, M. Cuneo, S. Pagnan, M. Sanguineti, "EKF Learning for feedforward neural networks," *European Control Conference 2003*, Cambridge, UK, 2003.
75. A. Alessandri, M. Baglietto, G. Battistelli, "On quadratic boundedness to solve estimation problems for linear systems," *4th IFAC Workshop on Robust Control Design*, Milano, Italia, 2003.
76. A. Alessandri, R. Bolla, M. Repetto, "Freeway incident detection using traffic information from mobile phones," *Safeprocess 2003*, pp. 1035-1040, Washington DC, USA, 2003.
77. A. Alessandri, "Sliding-mode state estimators for Lipschitz nonlinear systems," *Safeprocess 2003*, pp. 789-794, Washington DC, USA, 2003.
78. A. Alessandri, P. Coletta, "Design of observers for switched discrete-time linear systems," *Proc. American Control Conference*, pp. 2785-2790, Denver, CO, 2003.
79. A. Alessandri, R. Bolla, M. Repetto, "Estimation of freeway traffic variables using information from mobile phones," *Proc. American Control Conference*, pp. 4089-4094, Denver, CO, 2003.
80. A. Alessandri, M. Cuneo, R. Filippini, M. Grassia, G. Soncin "Simulation-based cost-efficiency analysis for intermodal transport networks," *ODY SSEUS 2003, 2nd International Workshop on Freight Transportation and Logistics*, Palermo, Italia, 2003.
81. A. Alessandri, C. Cervellera, F. Grassia, "Application of neural control to economic growth problems," *2003 International Conference on Computational Intelligence for Financial Engineering (CIFEr2003)*, pp. 151-157, Hong Kong, Cina, 2003.
82. A. Alessandri, C. Cervellera, F. Grassia, "Optimal neural feedback control applied to a problem of economic growth in freight transportation market," *Proc. 41st IEEE Conference on Decision and Control*, pp. 1141-1146, Las Vegas, Nevada, 2002.
83. A. Alessandri, M. Sanguineti, M. Maggiore, "Optimized feedforward neural networks for on-line identification of nonlinear models," *Proc. 41st IEEE Conference on Decision and Control*, pp. 1751-1756, Las Vegas, Nevada, 2002.
84. A. Alessandri, M. Baglietto, G. Battistelli, "Design of receding-horizon filters for discrete-time linear systems using quadratic boundedness," *Proc. 15th IFAC Triennial World Congress*, Barcelona, Spain, 2002.

85. A. Alessandri, M. Sanguineti, M. Maggiore, "Batch-mode identification of black-box models using feedforward neural networks," *Proc. American Control Conference*, pp. 406-411, Anchorage, AK, 2002.
86. A. Alessandri, M. Sanguineti, "On the convergence of estimators for a class of nonlinear systems," *Proc. 40th IEEE Conference on Decision and Control*, pp. 3372-3377, Orlando, FL, 2001.
87. A. Alessandri, P. Coletta "An LMI approach to multi-model estimation for discrete-time linear systems," *Proc. European Control Conference*, pp. 324-329, Porto, Portugal, 2001.
88. A. Alessandri, M. Sanguineti, "W-stable estimators for nonlinear systems," *Proc. European Control Conference*, pp. 330-335, Porto, Portugal, 2001.
89. A. Alessandri, M. Baglietto, G. Battistelli, T. Parisini, R. Zoppoli, "A receding-horizon estimator for discrete-time linear systems," *Proc. European Control Conference*, pp. 3753-3758, Porto, Portugal, 2001.
90. A. Alessandri, M. Sanguineti, "Stable approximate estimators for a class of nonlinear systems," *1st IFAC Symposium on System Structure and Control*, Praga, Repubblica Ceca, 2001.
91. A. Alessandri, M. Sanguineti, "Approximate solution of optimal estimation problems in  $L_p$  spaces," *Proc. 5th IFAC Symposium on Nonlinear Control System*, pp. 866-871, Saint Petersburg, Russia, 2001.
92. A. Alessandri, P. Coletta, "Switching observers for continuous-time and discrete-time linear systems," *Proc. American Control Conference*, pp. 2516-2521, Arlington, Virginia, 2001.
93. A. Alessandri, M. Sanguineti, " $L_p$ -stable and asymptotic estimators for nonlinear dynamic systems," *Proc. American Control Conference*, pp. 1991-1996, Arlington, Virginia, USA, 2001.
94. A. Alessandri, T. Parisini, "Neural observers for fault detection and isolation: theory and applications," *2nd DAMADICS Workshop on Neural Networks Methods for Modelling and Fault Diagnosis*, Genova, 2001.
95. A. Alessandri, "Design of sliding-mode observers and filters for nonlinear dynamic systems," *Proc. 39th IEEE Conference on Decision and Control*, pp. 2593-2598, Sydney, Australia, 2000.
96. A. Alessandri, M. Sanguineti, "On estimators for nonlinear dynamic systems in  $L_p$  spaces," *Proc. 39th IEEE Conference on Decision and Control*, pp. 298-303, Sydney, Australia, 2000.
97. A. Alessandri, "Sliding-mode estimators for a class of nonlinear systems," *Proc. 3rd Symposium on Robust Control Design, ROCOND 2000*, vol. 1, pp. 155-160, Prague, Czech Republic, 2000.
98. A. Alessandri, P. Coletta, "Navigation for underwater vehicles based on asynchronous nonlinear estimation," *Proc. American Control Conference*, pp. 85-89, Chicago, Illinois, 2000.
99. A. Alessandri, G. Bruzzone, M. Caccia, P. Coletta, G. Veruggio, "Fault detection through dynamics monitoring for unmanned underwater vehicles," *Safeprocess 2000*, vol. 2, pp 973-978, Budapest, Hungary, 2000.
100. A. Alessandri, M. Delia, G. Graffione, T. Parisini, "Nonlinear fault detection by a bank of neural estimators," *Safeprocess 2000*, vol. 1, pp. 440-445, Budapest, Hungary, 2000.

101. A. Alessandri, A. Gibson, A. J. Healey, G. Veruggio "Robust model-based fault diagnosis for unmanned underwater vehicles using sliding mode observers," *11th International Symposium on Unmanned Untethered Submersible Technology*, pp. 352-359, Durham, New Hampshire, 1999.
102. A. Alessandri, T. Parisini, R. Zoppoli, "Sliding-window neural state estimation in a power plant heater line," *Proc. American Control Conference*, vol. 2, pp. 880-884, San Diego, California, 1999.
103. A. Alessandri, T. Parisini, R. Zoppoli, "A convergent neural state estimator for nonlinear stochastic systems," *Proc. 37th IEEE Conf. on Decision and Control*, vol. 1, pp. 1076-1081, Tampa, Florida, 1998.
104. A. Alessandri, L. Piccardo, M. Sanguineti, G. S. Villa, "Comparison between multilayer feedforward nets and radial basis functions to solve approximate nonlinear estimation problems," *Proc. NOLTA'98*, vol. 1, pp. 105-108, Crans-Montana, Switzerland, 1998.
105. A. Alessandri, R. Bono, M. Caccia, G. Indiveri, G. Veruggio, "Experiences on the modelling and identification of the heave motion of an open-frame UUV," *Oceans'98*, vol. 2, pp. 1049-1053, Nice, France, 1998.
106. A. Alessandri, M. Caccia, G. Veruggio, "A model-based approach to fault diagnosis in unmanned underwater vehicles," *Oceans'98*, vol. 2, pp. 825-829, Nice, France, 1998.
107. A. Alessandri, M. Caccia, G. Indiveri, G. Veruggio, "Application of LS and EKF techniques to the identification of underwater vehicles," *Proc. Conference on Control Applications 1998*, vol. 2, pp. 1084-1088, Trieste, Italia, 1998.
108. A. Alessandri, T. Parisini, "Neural state estimators for direct model-based fault diagnosis," *Proc. American Control Conference*, vol. 5, pp. 2874-2878, Philadelphia, Pennsylvania, 1998.
109. A. Alessandri, M. Maggiore, M. Sanguineti, "Parameter-estimation-based learning for feedforward neural networks: convergence and robustness analysis," *Proc. European Symposium on Artificial Neural Networks*, pp. 285-290, Bruges, Belgium, 1998.
110. A. Alessandri, M. Maggiore, M. Sanguineti, "Training feedforward neural networks through a parameter-estimation-based algorithm," *Proc. NEURAP'98*, pp. 225-228, Marsiglia, Francia, 1998.
111. G. Veruggio, A. Alessandri, R. Bono, Ga. Bruzzone, Gi. Bruzzone, M. Caccia, E. Spirandelli, G. Indiveri, "Variable configuration UUVs for marine science applications," *Proc. 7th International Advanced Robotics Programme*, Lafayette, Louisiana, 1998.
112. A. Alessandri, M. Maggiore, M. Sanguineti, "Training feedforward neural networks with convergence analysis," *Proc. NOLTA'97*, Honolulu, Hawaii, vol. 2, pp. 751-754, 1997.
113. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "A simulation-based analysis of a controlled freeway system," *11th International Conference on Mathematical and Computer Modelling and Scientific Computing*, Washington DC, 1997.
114. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Simulation analysis to design control strategies for freeway systems," *Proc. 15th IMACS World Congress 1997*, Berlino, Germania, vol. 6, pp. 683-688, 1997.
115. A. Alessandri, M. Caccia, G. Veruggio "Model-based fault detection for unmanned underwater vehicles," *Safeprocess'97*, Kingston Upon Hull, UK, vol. 2, pp. 615-620, 1997.
116. A. Alessandri, T. Parisini, "Direct model-based fault diagnosis using neural filters," *Safeprocess'97*, Kingston Upon Hull, UK, vol. 1, pp. 353-358, 1997.

117. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Optimal control of freeways via speed signalling," *Proc. European Control Conference*, Bruxelles, Belgio, vol. 6, Part B, 1997.
118. A. Alessandri, T. Parisini, R. Zoppoli, "Neural approximations for state-space parametric identification of nonlinear systems," *Proc. European Control Conference*, Bruxelles, Belgio, vol. 1, 1997.
119. A. Alessandri, G. Bartolini, P. Pavanati, E. Punta, A. Vinci, "An application of the extended Kalman filter for integrated navigation in mobile robotics," *Proc. American Control Conference*, Albuquerque, New Mexico, vol. 1, pp. 527-531, 1997.
120. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Optimal control of freeways via speed signalling and ramp-metering," *Proc. 8th IFAC Symposium on Transportation Systems '97*, Chania, Grecia, vol. 3, pp. 1066-1071, 1997.
121. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, S. Sacone, "Freeway corridor control for the optimization of the traffic flow," *Proc. IFAC Conference on Control of Industrial Systems*, Belfort, Francia, vol. 2, pp. 235-241, 1997.
122. A. Alessandri, M. Maggiore, T. Parisini, R. Zoppoli, "Neural approximators for nonlinear sliding-window state observers," *Proc. 35th IEEE Conference on Decision and Control*, Kobe, Giappone, vol. 2, pp. 1461-1463, 1996.
123. A. Alessandri, M. Sanguineti, "An incremental procedure for the training of feedforward neural networks," *Proc. NOLTA'96*, Kochi, Giappone, pp. 233-236, 1996.
124. A. Alessandri, T. Parisini, "Model-based fault-detection in a real power plant using neural networks and stochastic approximation," *Proc. 13th IFAC World Congress*, San Francisco, CA, vol. N, pp. 247-256, 1996.
125. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "Control of freeway systems in congested traffic conditions," *Proc. MTNS96*, St. Louis, Missouri, 1996.
126. A. Alessandri, A. Di Febbraro, A. Ferrara, E. Punta, "An augmented state extended Kalman filter for freeway traffic flow estimation," *Proc. 1996 World Automation Congress*, Montpellier, Francia, vol. 4, pp. 15-20, 1996.
127. A. Alessandri, T. Parisini, R. Zoppoli, "Neural approximators for nonlinear finite-memory state estimation," *Proc. 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, vol. 2, pp. 1258-1265, 1995.
128. A. Alessandri, S. Dagnino, M. Marchesoni, M. Mazzucchelli, P. Saccani, "A neural rotor flux observer for induction motor control," *Proc. 6th European Conference on Power Electronics and Applications*, Sevilla, Spagna, vol. 3, pp. 3.011-3.016, 1995.
129. A. Alessandri, T. Parisini, "Nonlinear modelling and state estimation in a real power plant using neural networks and stochastic approximation," *Proc. American Control Conference*, Seattle, Washington, vol. 3, pp. 1561-1567, 1995.
130. A. Alessandri, A. Di Febbraro, A. Ferrara, "A two-level approach for the control of freeways," *Proc. Application of Advanced Technologies in Transportation Engineering*, Capri, Italia, pp. 429-433, 1995.
131. A. Alessandri, A. Di Febbraro, A. Ferrara, "A discrete event model for monitoring and controlling freeways," *Proc. European Simulation Multiconference '95*, Praga, Cecoslovacchia, pp. 358-362, 1995.
132. A. Alessandri, F. Bini Verona, T. Parisini, A. Torrini, "Neural approximation for the optimal control of heating systems," *Proc. 3rd IEEE Conference on Control Applications*, Glasgow, UK, vol. 3, pp. 1613-1618, 1994.

133. A. Alessandri, T. Parisini, M. Sanguineti, R. Zoppoli, "Neural networks for nonlinear finite-memory state-estimators," *Proc. World Conference on Neural Networks*, Portland, Oregon, vol. 3, pp. 123-126, 1993.
134. A. Alessandri, T. Parisini, M. Sanguineti, R. Zoppoli, "Neural strategies for nonlinear optimal filtering," *Proc. IEEE International Conference on Systems Engineering*, Kobe, Giappone, pp. 44-49, 1992.

### **Comunicazioni a congressi nazionali**

1. A. Alessandri, M. Maggiore, M. Sanguineti, "Training feedforward neural networks: convergence and robustness analysis," *Proc. WIRN'98*, Vietri sul Mare, pp. 267-272, Italia, 1998.
2. A. Alessandri, T. Parisini, M. Sanguineti, R. Zoppoli, "Neural nonlinear controllers and observers: stability results," *Proc. WIRN '96 Conference*, Vietri sul Mare, pp. 80-90, 1996.
3. A. Alessandri, T. Parisini, R. Zoppoli, "Neural approximations for nonlinear finite-memory state estimators," *Proc. WIRN '95 Conference*, Vietri sul Mare, pp. 81-86, 1995.
4. A. Di Febbraro, A. Ferrara, S. Sacone, A. Alessandri, "Modelli di Comportamento del traffico autostradale in condizioni regolari e in presenza di alterazioni," *Atti Secondo Convegno Nazionale Progetto Finalizzato Trasporti*, Genova, Italia, vol. 3, pp. 1473-1479, 1995.

### **Altre pubblicazioni**

1. A. Alessandri, M. Sanguineti, "Reti neurali per la stima dello stato e il controllo ottimo di sistemi non lineari stocastici," tesi di laurea in Ingegneria Elettronica dell'Università di Genova, 1992.
2. A. Alessandri, "Reti neurali per la stima dello stato e l'identificazione parametrica dei sistemi non lineari," tesi di dottorato in Ingegneria Elettronica e Informatica dell'Università di Genova, 1996.
3. A. Alessandri, "Petri nets for mission control in underwater robotics," relazione per borsa di studio ERNET, 1996.
4. A. Alessandri, "Veicoli robotici sottomarini: individuazione, diagnosi e recupero dei guasti," relazione per borsa di studio CNR presso Naval Postgraduate School, Monterey, CA, 1999.