



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Augusto Ferrante

Curriculum Vitae et Studiorum



"Tu nihil invita dices faciesve Minerva" - Horatius

Personal

Bio Born in Piove di Sacco (Italy) on August 5-th, 1967. Married
Nationality Italian
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Languages

Italian Mother tongue
English Advanced
Spanish Basic

Education

- 1991 – 1995 **PhD in Systems' Engineering**, *Universities of Bologna, Padova and Firenze*, Italy.
Title of the thesis "Stochastic Realization and Parameterization of Minimal Spectral Factors".
Advisor: Professor M. Pavon.
Degree obtained on October 27, 1995.
- 1986 – 1991 **"Laurea" in Electronic Engineering**, *University of Padova*, Italy.
Final grade: 110/110 *cum laude*.
Title of the thesis "Computer Algebra Algorithms for the Computation of Gröbner Basis".
Advisors: Professors E. Fornasini and G. Marchesini.
Degree obtained on July 18, 1991.

Academic experience

- 2006–Present **Full Professor**, *Department of Information Engineering*, University of Padova.
2001–2006 **Associate Professor**, *Department of Information Engineering*, University of Padova.
1998–2001 **Associate Professor**, *Department of Electronic and Information Engineering*, Polytechnic University of Milano.
1995–1998 **Junior Faculty (“Ricercatore”)**, *Department of Electrical, Mechanical and Management Engineering*, University of Udine.
1994–1995 **Adjunct Professor**, *Department of Electrical, Mechanical and Management Engineering*, University of Udine.
1993–1994 **Visiting Scholar – Assistant Specialist**, *Institute of Theoretical Dynamics*, University of California, Davis.

Research activities and scientific contributions

Spectral analysis: Spectral estimation and approximation. Spectral and J -spectral factorization.

Linear systems: Modeling, estimation, and optimal control.

Matrix analysis: Matrix equations, Riccati equations. Matrix completion. Matrix pencils.

Reciprocal processes: Modeling and identification.

Control and estimation of quantum mechanical systems.

Passivity theory: Positive real and negative imaginary systems.

Stochastic realization.

Model reduction.

Honors

- April 2003 Distinction for “a significant scientific experience” awarded by CIRA (Italian Board for Research in Control Theory) national committee.

Research projects

- 2019–2021 **A Multidimensional and Multivariate Moment Problem Theory for Target Parameter Estimation in Automotive Radars**, *Funding source: University of Padova*, Participant.
- 2012–2013 **A Unifying Framework for Spectral Estimation and Matrix Completion: A New Paradigm for Identification, Estimation, and Signal Processing**, *Funding source: University of Padova*, PI.
- 2010–2012 **Quantum-Future**, *Funding source: University of Padova (Strategic project)*, Participant.

- 2009–2011 **Schroedinger Bridges for Quantum Channels: A New Approach to Information Encoding and Control Design**, *Founding source: University of Padova*, Participant.
- 2008–2011 **Feedback design for wireless networked systems**, *Founding source: European Community (STREP action)*, Participant.
- 2007–2011 **QUINTET: A strategic project on Quantum Information Engineering@DEI**, *Founding source: Dept. di Ingegneria dell'Informazione of the University of Padova (action: hiring young professors for the development of new strategic research lines)*, Co-Proponent.
- 2007–2008 **New techniques and applications of identification and adaptive control**, *Founding source: Italian Ministry for University and scientific research (PRIN action)*, Deputy-PI.
- 2005–2006 **New methods and algorithms for identification and adaptive control of technological systems**, *Founding source: Italian Ministry for University and scientific research (PRIN action)*, Deputy-PI.
- 2003–2004 **New techniques for identification and adaptive control of industrial systems**, *Founding source: Italian Ministry for University and scientific research (PRIN action)*, Participant.
- 2002–2005 **Real-Time Embedded Control of Mobile Systems with Distributed Sensing**, *Founding source: European Community*, Participant.
- 2001–2002 **New techniques for identification and adaptive control of industrial systems**, *Founding source: Italian Ministry for University and scientific research (PRIN action)*, Participant.
- 2000–2002 **Control of quantum systems**, *Founding source: University of Padova*, Participant.
- 1999–2000 **Algorithms and architectures for identification and control of industrial systems**, *Founding source: Italian Ministry for University and scientific research (PRIN action)*, Participant.

Scholarships and travel grants

- Sep. 2008 Grant from Ben Gurion University of the Negev (Israel) for participation to "LINSYS 2008" (Workshop on Linear System Theory).
- May 2008 Grant from the KTH of Stockholm for a one-week visit entirely sponsored by the by the hosting institution.
- Sep. 2005 Grant from Ben Gurion University of the Negev (Israel) for participation to a "Workshop on Linear System Theory".
- July 1996 CNR travel grant in the framework of short-term mobility of researchers.
- Sep. 1993 "Ing. Aldo Gini" scholarship for a 10-month period at the University of California, Davis.
- Nov. 1991 Three years scholarship for Ph.D. in System & Control Engineering (first in the scholarship competition).

Ph.D. Students

- 2020-present **Lucia Falconi**, *Research topic: dynamical factor models, robust optimal control*, web-page: <https://www.researchgate.net/profile/Lucia-Falconi>.
- 2017 – 2020 **Daniele Alpago**, *Research topic: graphical model selection*, present position: Quantitative strategist @ Credit Suisse, Zurich, Switzerland
web-page: <https://www.linkedin.com/in/dalpago/>.
- 2016 – 2019 **Valentina Ciccone**, *Research topic: robust factor analysis*, present position: PhD Student at Hausdorff Center for Mathematics, Mathematical Institute, Bonn International Graduate School. web-page: <https://www.hcm.uni-bonn.de/people/profile/valentina-ciccone/>.
- 2014 – 2017 **Giacomo Baggio**, *Research topic: spectral factorization and spectral analysis*, present position: Post-Doc at Univ. of California, Riverside.
web-page: <http://www.dei.unipd.it/~baggio/>.
- 2011 – 2014 **Chiara Masiero**, *Research topic: spectral factorization and spectral analysis*, present position: Data Scientist at Statwolf, Italy.
web-page: <https://www.linkedin.com/in/chiara-masiero/>.
- 2009 – 2012 **Mattia Zorzi**, *Research topic: covariance analysis and spectral analysis*, present position: Associate Professor at Univ. of Padova, Italy.
web-page: www.dei.unipd.it/~zorzi/.
- 2006 – 2009 **Federico Ramponi**, *Research topic: spectral analysis*, present position: Associate Professor at Univ. of Brescia, Italy.
web-page: <http://federico-ramponi.unibs.it>.
- 2005 – 2008 **Francesco Ticozzi**, *Research topic: Quantum control and quantum estimation*, present position: Associate Professor at Univ. of Padova, Italy.
web-page: <http://www.dei.unipd.it/~ticozzi/>.
- 2004 – 2007 **Alessandro Abate**, *Research topic: flow control schemes over wireless networks*, present position: Associate Professor at Univ. of Oxford, UK
web-page: <https://www.cs.ox.ac.uk/people/alessandro.abate/>.

Visits to scientific institutions

- March - May 2014 **Visiting Professor**, *Curtin University of Technology*, Perth, Australia.
- Nov. 2012 **Short visit**, *University of Palermo*, Italy, (seminar delivered).
- Nov. 2011 **Short visit**, *University of Melbourne*, Australia, (seminar delivered).
- Sep. 2011 - Feb. 2012 **Visiting Professor**, *Curtin University of Technology*, Perth, Australia.
- March 2010 **Short visit**, *Istituto Politecnico of Lisboa*, Portugal, (seminar delivered).
- April 2009 **Short visit**, *University of Palermo*, Italy, (seminar delivered).
- Sep. 2008 **Invited participation to "LINSYS 2008"**, *Ben Gurion University of the Negev*, Sde Boker, Israel, (seminar delivered).

- May 2008 **Short visit**, *Royal Institute of Technology (KTH)*, Stockholm, Sweden, (seminar delivered).
- March 2008 **Short visit**, *University of Catania*, Italy, (seminar delivered).
- April 2007 **Short visit**, *University of Catania*, Italy, (seminar delivered).
- Sep. 2005 **Invited participation to "LINSYS 2005"**, *Ben Gurion University of the Negev*, Sde Boker, Israel, (seminar delivered).
- May 2001 **Short visit**, *Polytechnic University of Torino*, Italy, (seminar delivered).
- May 1998 **Short visits**, *Polytechnic University of Milano*, *University of Roma "La Sapienza"* and *University of Bologna*, Italy, (seminar delivered for each visit).
- Aug. - Oct. 1996 **Visiting Specialist**, *University of California at Davis*, USA, (seminars delivered).
- May 1996 **Short visit**, *Universität Würzburg*, Germany, (seminar delivered).
- Sep. 1993 - July 1994 **Visiting Scholar-Assistant Specialist**, *University of California at Davis*, USA, (seminars delivered).

Main collaborations

- Prof. G. Bilardi, Università di Padova.
- Prof. A. Chiuso, Università di Padova.
- Prof. P. Colaneri, Politecnico di Milano.
- Prof. D. D'Alessandro, Iowa State University, Ames, USA.
- Prof. P. Fuhrmann, Dep. of Math., Ben Gurion Univ., Israel.
- Prof. A. Krener, Dep. of Math., Univ. of California at Davis, USA.
- Prof. A. Lepschy, Università di Padova.
- Prof. B. Levy, Dep. of Elec. Eng., Univ. of California at Davis, USA.
- Prof. G. Marro, Università di Bologna.
- Prof. G. Michaletzky, Eötvös L. Univ., Budapest, HU.
- Prof L. Ntogramatzidis, Curtin University of Technology, Perth, Australia.
- Prof. L. Pandolfi, Politecnico di Torino.
- Prof. M. Pavon, Università di Padova.
- Prof. G. Picci, Università di Padova.
- Prof. S. Pinzoni, Università di Padova.
- Dr R. Schmid, The University of Melbourne, Australia.
- Prof. R. Sepulchre, Department of Engineering, University of Cambridge (UK).
- Prof. H. Wimmer, Mathem. Institut, Universität Würzburg, Germany.
- Prof. S. Zampieri, Università di Padova.

Editorial activities and conference organization

- 2019-present **Associate Editor of Applied Sciences.**
- 2018-present **Associate Editor of IET Control Theory & Applications.**
- 2023 **Member of the International Program Committee**, 31-st Mediterranean Conference on Control & Automation, MED2023, <https://med2023.eu>.

- 2020 **Member of the International Program Committee**, 28-th Mediterranean Conference on Control & Automation, MED2020, <http://med2020.cran.univ-lorraine.fr/>.
- 2019 **Member of the International Program Committee**, 27-th Mediterranean Conference on Control & Automation, MED2019, <https://med19.technion.ac.il>.
- 2018 **Member of the International Program Committee**, 26-th Mediterranean Conference on Control & Automation, MED2018, <http://www.med-control.org/med2018/>.
- 2017 **Member of the International Program Committee**, 25-th Mediterranean Conference on Control & Automation, MED2017, <https://www.um.edu.mt/events/med2017>.
- 2015 **Member of the International Program Committee**, 23-th Mediterranean Conference on Control & Automation, MED2015, <http://www.med2015.uma.es>.
- 2014 **Member of the International Program Committee**, 22-th Mediterranean Conference on Control & Automation, MED2014, <http://www.unipa.it/med14/organization.php>.
- 2007 **Co-organizer**, *International conference ERNSI '07*, <http://control.dei.unipd.it/ERNSI07/index.htm>.
- 2007 **Co-organizer**, *International Conference on Modeling, Estimation and Control: A Symposium in Honor of Giorgio Picci on the Occasion of his sixty-fifth Birthday*, <http://www.dei.unipd.it/~chiuso/ICMEC/index.htm>.
- 1998 **Member of the Local Organizing Committee**, *International conference MTNS'98*.
- 1991- present **Reviewer for the following journals and conferences**, *IEEE Transactions on Automatic Control, Automatica, SIAM J. on Control & Optimization, Systems & Control Letters, IET Control Theory & Applications, European Journal of Control, Linear Algebra and its Applications, Asian Journal of Control, International Journal of Robust and Nonlinear Control, Integral Equations and Operator Theory, Entropy, IEEE Signal Processing Letters, Mathematics of Control, Signals, and Systems, Circuits, Systems & Signal Processing, Applied Mathematics and Computation, IEEE Conference on Decision and Control (CDC), IEEE Multi-Conference on Systems and Control (MSC), IFAC symposium on system identification (SYSID), world congress of the IFAC, European control conference (ECC), American control conference (ACC), Mediterranean Conference on Control & Automation (MED), Asian Control Conference.*

Teaching activities

- 2021 - 2022 **Introduction to automatic control (72 hours)**, *Biomedical Engineering program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 112 answers for both courses): Overall satisfaction: 9/10, Online organization of the course: 9.75/10, In class organization of the course: 9.25/10, Teaching: 9.5/10.

- 2021 - 2022 **Introduction to automatic control (72 hours)**, *Biomedical Engineering program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 131 answers for both courses): Overall satisfaction: 9/10, Online organization of the course: 9.75/10, In class organization of the course: 9/10, Teaching: 9/10.
- 2020 - 2021 **Control laboratory (8 hours in a course of 72 hours)**, *Graduate course of the Control Systems Engineering program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 70 answers): Overall satisfaction: 8/10, Organization of the course: 9/10, Teaching: 8.5/10.
- 2020 - 2021 **Introduction to automatic control (24 hours in a course of 72 hours)**, *Biomedical Engineering program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 106 answers): Overall satisfaction: 9/10, Organization of the course: 9.75/10, Teaching: 9.5/10.
- 2020 - 2021 **Introduction to automatic control (72 hours)**, *Biomedical Engineering program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 109 answers): Overall satisfaction: 10/10, Organization of the course: 10/10, Teaching: 10/10.
- 2019 - 2020 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova, Students Evaluation (median over 111 answers): Overall satisfaction: 10/10, Organization of the course: 9.75/10, Teaching: 10/10.
- 2019 - 2020 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 56 answers): Overall satisfaction: 9/10, Organization of the course: 9.50/10, Teaching: 9.50/10.
- 2018 - 2019 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova, Students Evaluation (median over 83 answers): Overall satisfaction: 9/10, Organization of the course: 9.50/10, Teaching: 9.50/10.
- 2018 - 2019 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 65 answers): Overall satisfaction: 9/10, Organization of the course: 9.50/10, Teaching: 9.50/10.
- 2017 - 2018 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova, Students Evaluation (median over 82 answers): Overall satisfaction: 9/10, Organization of the course: 9.75/10, Teaching: 9.50/10.
- 2017 - 2018 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova, Students Evaluation (median over 40 answers): Overall satisfaction: 9/10, Organization of the course: 9.50/10, Teaching: 9.50/10.
- 2016 - 2017 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova.

- 2016 - 2017 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2016 - 2017 **Linear algebra and geometry (24 hours)**, *Information Engineering programs*, Department of Information Engineering, University of Padova.
- 2015 - 2016 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova.
- 2015 - 2016 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2014 - 2015 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova.
- 2014 - 2015 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2013 - 2014 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova.
- 2013 - 2014 **Digital control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2012 - 2013 **Introduction to automatic control (72 hours)**, *Biomedical Engineering and Electronic Engineering programs*, Department of Information Engineering, University of Padova.
- 2012 - 2013 **Advanced topics in control (48 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2010 - 2011 **Introduction to automatic control (72 hours)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2009 - 2010 **Model identification and data analysis (78 hours)**, *Graduate course of the Automation Engineering Program*, Department of Information Engineering, University of Padova.
- 2009 - 2010 **Introduction to automatic control (78 hours)**, *Mechatronic Engineering program*, University of Padova (Vicenza campus).
- 2008 - 2009 **Introduction to automatic control (two courses of 54 hours each)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2007 - 2008 **Introduction to automatic control (two courses of 54 hours each)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2006 - 2007 **Introduction to automatic control (two courses of 54 hours each)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2005 - 2006 **Introduction to automatic control (two courses of 54 hours each)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2004 - 2005 **Introduction to automatic control (54 hours)**, *Management Engineering program*, University of Padova (Vicenza campus).

- 2004 - 2005 **Introduction to automatic control (54 hours)**, *Electronic Engineering program*, University of Padova (Vicenza campus).
- 2003 - 2004 **Introduction to automatic control (54 hours)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2003 - 2004 **Introduction to automatic control (54 hours)**, *Electronic Engineering program*, University of Padova (Vicenza campus).
- 2002 - 2003 **Introduction to automatic control (54 hours)**, *Electronic Engineering program*, University of Padova (Vicenza campus).
- 2002 - 2003 **Systems modeling and estimation (16 hours)**, *"Magneti Marelli Motorsport" Racing Department*.
- 2002 - 2003 **Data Analysis (49 hours)**, *Environment Engineering program*, University of Padova.
- 2001 - 2002 **Model identification and data analysis (78 hours)**, *Management Engineering program*, University of Padova (Vicenza campus).
- 2001 - 2002 **Data Analysis (49 hours)**, *Environment Engineering program*, University of Padova.
- 2001 - 2002 **Introduction to automatic control (110 hours)**, *Computer Engineering program*, Polytechnic University of Milano (Como campus).
- 2000 - 2001 **Introduction to automatic control (110 hours)**, *Electrical Engineering program*, Polytechnic University of Milano.
- 2000 - 2001 **Modern techniques in control of linear systems (20 hours)**, *Ph.D. program in Control Engineering*, Polytechnic University of Milano.
- 1999 - 2000 **Introduction to automatic control (110 hours)**, *Electrical Engineering program*, Polytechnic University of Milano.
- 1998 - 1999 **Model identification and data analysis (110 hours)**, *Computer Engineering program*, Polytechnic University of Milano (Como campus).
- 1998 - 1999 **Statistical methods for identification**, *Summer Ph.D. school*, Bertinoro, Italy.
- 1995 - 1998 **9 Monographic courses (4 to 10 hours)**, *as assistant in the following courses*.
 - *Automatic Control*, University of Udine.
 - *System Theory*, University of Udine.
 - *Automatic Control*, University of Padova.
 - *Identification Theory*, University of Padova.
 - *Applied Electronics*, University of Udine.
- 1994 - 1995 **Automatic Control (65 hours)**, *Mechanical Engineering program*, University of Udine (Pordenone campus).
- 1993 - 1994 **Monographic course (10 hours)**, *as part of the course Optimal Filtering*, Electrical Engineering program, University of California at Davis.
- 1991 - 1994 **3 monographic courses on Modern control techniques (6 hours each)**, *as part of the course Automatic Control*, Electronic Engineering program, University of Padova.

Contracts and collaboration with industries

- 2022-present **Member of the Board of Directors of Fracarro s.r.l.**, Castelfranco, Italy.
- 2015-present **Member of the Board of Directors of Hemina S.p.A.**, Montagnana, Italy.
- 2002-2003 **Research contract with Magneti Marelli S.p.A.**, Development of system for torque control in "Formula 1" racing cars.
- 1998-1999 **Collaboration with Laben S.p.A.**, project for tracking of satellites outside the earth orbit (deep space) using Kalman filtering technique.
- 1996-1997 **Collaboration with Danieli S.p.A.**, project for estimation of the steel level in a casting process.

Services to the Department and to Universities

- 2013-present **Director of the program of graduate studies in Automation Engineering.**
- 2006-2018 **Member of the Executive Committee (Giunta)**, Department of Information Engineering, University of Padova.
- 2014-2018 **Member of the H.R. Hiring Committee**, Department of Information Engineering, University of Padova.
- 2005-2015 **Responsible of the Ph.D. courses offer**, Ph.D. School in Information Engineering, Department of Information Engineering, University of Padova.
- 2007-2013 **Member of the "Research" Committee**, Department of Information Engineering, University of Padova.
- 2007-2013 **Member of the "Scientific" Committee**, Department of Information Engineering, University of Padova.
- 2003-2011 **Member of the "Young Researchers" Committee**, Department of Information Engineering, University of Padova.
- 2005-2012 **Member of the "Executive Committee"**, Ph.D. School in Information Engineering, Department of Information Engineering, University of Padova.
- 2002-2004 **Director of the Ph.D. program in "System and Control Engineering and Operations Research"**, Department of Information Engineering, University of Padova.
- 2001-present **Member of Committees for hiring Professors for the following positions.**
- National Scientific Qualification (ASN) for Professorship in Italy (2019-2021).
 - Tenure-track Assistant Professor, University of Catania (2018). *President of the Committee.*
 - Associate Professor, University of Brescia (2018).
 - Assistant Professor, University of Catania (2018). *President of the Committee.*
 - Tenure-track Assistant Professor, University of Padova (2017). *President of the Committee.*
 - Associate Professor, University of Padova (2015). *President of the Committee.*
 - Tenured Assistant Professor, University of Pavia (2010).
 - Associate Professor, University of Palermo (2006).
 - Tenured Assistant Professor, SISSA, Trieste (2004).
 - Associate Professor, University of Roma Tor Vergata (2001).

Publications

International Journal Papers

- [J1] G. Picci, L. Falconi, A. Ferrante, and M. Zorzi. Hidden Factor Estimation in Dynamic Generalized Factor Analysis Models. *Automatica*. Vol. 149:110834, DOI: 10.1016/j.automatica.2022.110834, 2023.
<https://www.sciencedirect.com/science/article/pii/S0005109822007002>.
- [J2] L. Falconi, A. Ferrante, and M. Zorzi. Mean-square Consistency of the f -truncated M^2 -periodogram. *Automatica*. Vol. 147:110672, DOI: 10.1016/j.automatica.2022.110672, 2023.
<https://www.sciencedirect.com/science/article/pii/S0005109822005362>.
- [J3] D. Alpag0, M. Zorzi and A. Ferrante A Scalable Strategy for the Identification of Latent-Variable Graphical Models. *IEEE Trans. Automatic Control*. Vol. AC-67(7):3349–3362, DOI: 10.1109/TAC.2021.3097558, 2022.
<https://ieeexplore.ieee.org/document/9488188>.
- [J4] A. Ferrante and G. Picci. Comments on “Representation and Factorization of Discrete-Time Rational All-Pass Functions”. *IEEE Trans. Automatic Control*. Vol. AC-67(8):4385–4385, DOI: 10.1109/TAC.2022.3174710, 2022.
<https://ieeexplore.ieee.org/document/9773956>.
- [J5] B. Zhu, A. Ferrante, J. Karlsson, and M. Zorzi. M^2 Spectral Estimation: A Flexible Approach Ensuring Rational Solutions. *SIAM J. Contr. and Opt.*. Vol. 59(4):2977–2996, 2021.
<https://doi.org/10.1137/20M1335315>
- [J6] B. Zhu, A. Ferrante, J. Karlsson, and M. Zorzi. M^2 -spectral estimation: A relative entropy approach. *Automatica*. Vol. 125:109404, DOI: 10.1016/j.automatica.2020.109404, 2021.
<https://www.sciencedirect.com/science/article/pii/S0005109820306063>.
- [J7] F. Padula, A. Ferrante, and L. Ntogramatzidis. Eigenstructure assignment in linear geometric control. *Automatica*. Vol. 124:109363, DOI: 10.1016/j.automatica.2020.109363, 2021.
<http://www.sciencedirect.com/science/article/pii/S0005109820305653>.
- [J8] M. Hakimi-Moghaddam, and A. Ferrante. New Results on the Characterization of Strictly Positive-Real Matrix Transfer Functions. *IEEE Trans. Automatic Control*. Vol. AC-66(1):335–339, DOI: 10.1109/TAC.2020.2980936, 2021.
<https://ieeexplore.ieee.org/document/9037118>
- [J9] V. Ciccone, A. Ferrante. Space and spectral domain relative entropy for homogeneous random fields. *Automatica*. Vol. 122:109226, DOI: 10.1016/j.automatica.2020.109226, 2020.
<http://www.sciencedirect.com/science/article/pii/S0005109820304246>.
- [J10] V. Ciccone, A. Ferrante and M. Zorzi. Learning Latent Variable Dynamic Graphical Models by Confidence Sets Selection. *IEEE Trans. Automatic Control*. Vol. AC-65(12):5130–5143, DOI: 10.1109/TAC.2020.2970409, 2020.
<https://ieeexplore.ieee.org/document/8976281>.
- [J11] A. Ferrante, A. Lanzon, and B. Brogliato. A Direct Proof of the Equivalence of Side Conditions for Strictly Positive Real Matrix Transfer Functions. *IEEE Trans. Automatic*

- Control*. Vol. AC-65(1):450–452, DOI: 10.1109/TAC.2019.2918123, 2020.
<https://ieeexplore.ieee.org/document/8743492>
- [J12] V. Ciccone, A. Ferrante and M. Zorzi. An Alternating Minimization Algorithm for Factor Analysis. *Kybernetika*. Vol. 55:740–754, DOI: 10.14736/kyb-2019-4-0740, 2019.
<https://www.kybernetika.cz/content/2019/4/740/paper.pdf>.
- [J13] G. Baggio, A. Ferrante, and R. Sepulchre. Conal Distances Between Rational Spectral Densities. *IEEE Trans. Automatic Control*. Vol. AC-64(5):1848–1857, DOI: 10.1109/TAC.2018.2855114, 2019.
<https://ieeexplore.ieee.org/document/8410478>.
- [J14] V. Ciccone, A. Ferrante and M. Zorzi. Factor Models With Real Data: A Robust Estimation of the Number of Factors. *IEEE Trans. Automatic Control*. Vol. AC-64(6):2412–2425, DOI: 10.1109/TAC.2018.2867372, 2019.
<https://ieeexplore.ieee.org/document/8447502>.
- [J15] A. Ferrante and G. Picci. On the State Space and Dynamics Selection in Linear Stochastic Models: A Spectral Factorization Approach. *IEEE Trans. Automatic Control*. Vol. AC-64(6):2509–2513, DOI: 10.1109/TAC.2018.2867164, 2019.
<https://ieeexplore.ieee.org/document/8445588>.
- [J16] G. Baggio, and A. Ferrante. Parametrization of Minimal Spectral Factors of Discrete-Time Rational Spectral Densities. *IEEE Trans. Automatic Control*. Vol. AC-64(1):396–403, DOI: 10.1109/TAC.2018.2829474, 2019.
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8344760&isnumber=8587037>.
- [J17] D. Alpago, and A. Ferrante. Families of solutions of algebraic Riccati equations. *Systems & Control Letters*. Vol. 127:35–38. DOI: 10.1016/j.sysconle.2019.03.012, 2019.
<http://www.sciencedirect.com/science/article/pii/S0167691119300477>
- [J18] L. Ntogramatzidis, and A. Ferrante. The geometry of the generalized algebraic Riccati equation and of the singular Hamiltonian system. *Linear and Multilinear Algebra*. Vol. 67(1):158–174, DOI: 10.1080/03081087.2017.1415292, 2019.
<https://doi.org/10.1080/03081087.2017.1415292>
- [J19] D. Alpago, M. Zorzi, and A. Ferrante. Identification of Sparse Reciprocal Graphical Models. *IEEE Control Systems Letters*. Vol. 2(4):659–664, DOI: 10.1109/LCSYS.2018.2845943, 2018.
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8378239&isnumber=8392647>
- [J20] A. Ferrante and L. Ntogramatzidis. On the reduction of the continuous-time generalized algebraic Riccati equation: An effective procedure for solving the singular LQ problem with smooth solutions. *Automatica*. Vol. 93:554–558. DOI: 10.1016/j.automatica.2018.04.034, 2018.
<http://www.sciencedirect.com/science/article/pii/S000510981830219X>
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