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Researcher identification	Researcher ID	L-4129-2014
	Orcid	0000-0002-8035-5199
	Researchgate	https://www.researchgate.net/profile/Ramon_Vilanova
	UNESCO codes	331102, 331005, 330412
	Keywords	PID Control, Process Control, Control Engineering, Optimization, Wastewater Treatment Systems

Publications (since 2010)	JCR Indexed Journals	>100
	Other Journals	13 (Dissemination, education, etc)
	h-index	39
	Books	5 Research and 7 Book chapters 2 TextBooks

PhD Supervisions (since 2010)	8 (2 currently)
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National Acreditations and Evaluations	Full Professor (ANECA)	Since, october 2012
	Advanced Researcher (AQU)	Since February 2014
	Research Periods	4 (last one in 2019)
	Academic Managemet	4 periods (last one in 2015), being 4 the maximum
	Teaching periods	7 periods

Official Degrees	Bachelor in Computer Science	Universitat Autònoma de Barcelona, June 1991
	M.Sc. in Computer Science	<i>Robust control of biological processes: H_∞ control of the Activated Sludge Process</i> UAB, December 1994. Supervisor: Prof. Ignasi Serra Pujol (UAB).
	PhD in Computer Science	<i>Two degrees of freedom controllers: Independence of properties and Robust Tracking.</i> UAB, December 1996. Supervisors: Professor Ignasi Serra Pujol (UAB).

The rest of the CV provides detailed list of

- Awards and Achievements
- Academic and visiting professor positions
- PhD thesis supervised
- Reviewer activity
- Funded Projects
- Publications list

AWARDS AND ACHIEVEMENTS (Last 5 years)

- Chair of the AC4CA (Automatic Control for Central America). International Symposium supported by the IFAC Foundation held in Costa Rica, Feb. 2011
- Serving as Guest editor for the IEEE Transactions on Industrial Informatics for the Special Section on Industrial Control, May 2011
- Coordinator of the Spanish group of interest on Control Engineering since 2011
- Best Paper Award at the 20th IEEE Mediterranean control conference, July 2012, Barcelona.
- Invited for delivering Open Academic Lecture at the Universidad de Costa Rica for the 2013 academic year
- Invited plenary speaker at the Jornadas de Automatica, Terrassa, September 2013
- Member of the Directive Board of the Spanish Committee on Automatic Control (CEA) since 2014
- Keynote given at CERN, Ginebra, “Recent advances in PI/PID controller tuning”, June 2014
- Best Doctoral Consortium paper at the INSTICC ICINCO conference held in Colmar, France, France, July 2015
- Most cited paper RIAI award for the paper “Tutorial on Robust PID Control”. Awarded at the Jornadas de Automática held in Bilbao Sept. 2015
- Best Paper award at the 19th IEEE International Conference on System Theory, Control and Computing, 14-16 October 2015, Fundata Resort, Rumania
- Senior research mobility grant awarded by MINECO (Spanish ministry of Economy and Competitiveness) under the 2016 Call
- Visiting Professor at the University of Brescia, Dept. Mechanical Engineering from October 2016 till February 2017
- Visiting Full professor at the University of Costa Rica for the period March-July 2017.
- Member of the IEEE IES Technical Committee of Industrial Automated Systems and Control
- Invitation to contribute at the Wiley Encyclopedia of Electrical and Electronics Engineering for the content related to PID Control. To appear Feb 2017.
- Visiting Professor at the University of Brescia, Dept. Mechanical Engineering February 2019
- Visiting Professor at the “Dunarea de Jos”, University of Galati, Rumania, Feb-July 2023.

ACADEMIC POSITIONS

- 2000-2003 Member of the Direction board. School of Engineering., UAB
- 2003-2007 Vice Director for Academic Affairs. School of Engineering., UAB
- 2007-2009 Engineering Postgraduate Program Coordinator. School of Engineering., UAB
- 2008-2010 Coordinator of the International Máster Programme Environmental Process Control Engineering
- 2009-2010 Vice Director for Postgraduate Studies. School of Engineering. UAB
- 2010-2012 Rector’s adjoint to the Vicerectorate for Academic Policy, in charge of Master studies, UAB
- 2013-2016 Director of Department of Telecommunications and Systems Engineering
- 2019-2022 Dean of the School of Engineering
- 2020- Board of Directors of SEFI (European Society for Engineering Education)
- 2021- Honorary Visiting Professor, University of Brescia, Italy

VISITING PROFESSOR POSITIONS (> 2months)

- University of Costa Rica, San Jose, Costa Rica. Jan-Feb 2009
- University of Strathclyde, Glasgow, Scotland, March-May 2009
- University of Brescia, Italy, October 2016- February 2017
- University of Costa Rica, San Jose, Costa Rica. Mar-July 2017

- University of Brescia, Italy, February 2019
- “Dunarea de Jos”, University of Galati, Rumania, Feb-Jul 2023

PHD THESIS SUPERVISED

- **Carles Pedret Ferré:** *"Robust Control Through Robustness enhancement : Control configurations and two-step design approaches"*, School of Engineering, UAB, July 2003
- **Pedro Balaguer Herrero:** *"Control and Information: Supervisión of Adaptive/Iterative schemes"*, School of Engineering, UAB, July 2007
- **Orlando Arrieta Orozco,** *"PID Control. Servo/regulation Performance and Robustness issues."*, School of Engineering, UAB, Dec 2010
- **Jose David Rojas,** *"Extensions and application of the Virtual Reference Feedback Tuning"*, School of Engineering, UAB, October 2011
- **Carlos Andres Garcia Salcedo,** *"Inventory Control in Supply Chains: An Internal Model Control Approach"*, UAB, December, 2012
- **Victor Manuel Alfaro,** *"Performance, Robustness and Fragility: A Unified approach to PI/PID controller analysis and design"*, School of Engineering, UAB, November 2013
- **Ignació Santín López,** *"Application of control strategies in wastewater treatment plants for effluent quality improvement, costs reduction and effluent limits violations removal."*, UAB, July 2015.
- **Helem Sabina Sánchez Corrales** *"Multi-objective Optimization and Multicriteria design of PI/PID controllers"*, UAB, July 2016
- **Hina Gohar-Ali** *"Maximum Point Power Tracking control in PV Systems"*, December, 2020

REVIEWER ACTIVITY: Acting as a reviewer for the following International Journals

<ul style="list-style-type: none">▪ IEEE Transactions on Automatic Control,▪ IEEE Transactions on Industrial Informatics▪ IEEE Transactions on Control System Technology▪ Automatica▪ Journal of Process Control▪ International Journal of Control▪ Control Engineering Practice▪ ISA Transactions▪ Asian Journal of Control▪ International Journal of Systems Science▪ Journal of the Franklin Institute	<ul style="list-style-type: none">▪ Computers and Chemical Engineering▪ Industrial and Engineering Chemistry Research▪ Chemical Engineering Communications▪ Chemical Engineering Journal▪ Water Research,▪ Water Science and Technology▪ Biochemical Engineering▪ International Journal of Simulation and Process Modelling▪ Journal of Systems and Control Engineering
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FUNDED PROJECTS

Relevant European / International funded projects

- Service-oriented Open Platform for Citizen Energy Communities (CEC) – a collaborative platform
Funding agency: EU – Driving Urban Transitions Partnership (DUT) - TMP-DUT-2022-0565
Participating countries: Romania, Spain, Italy, Norway
Duration: Sept 2023 - Sept 2025
Role: Coordinator Spain
- A Business Model-Oriented Platform with Applications for Developing Local Electricity Markets and Accelerating Clean Energy Transition
Funding agency: EU - Clean Energy Transition Partnership (CETPartnership) - CETP-2022-00373
Participating countries: Romania, Austria, Spain, Portugal, Ireland
Duration: Sept 2023 - Sept 2025
Role: Coordinator Spain
- Cooperation to implement Creative Thinking and Gamification for innovative online training of STEM students
Funding agency: EU – Strategic Partnerships - 2023-1-RO01-KA220-HED-000152883
Participating countries: Spain, Portugal, Rumania
Duration: Oct 2023 - Sept 2025
Role: Coordinator Spain
- NICEST: Next generation Industrial Control Engineering for Sustainable water system Treatment
Funding agency: EU – Erasmus Mundus Design Measures - ERASMUS-EDU-2022-EMJM-DESIGN 101082541
Participating countries: Spain, Greece, Italy, Rumania
Duration: Nov 2022 - Feb 2024
Role: Coordinator
- SPEET: Student Profile for enhancing Engineering Tutoring by using BigData Analysis
Funding agency: EU – Strategic Partnerships
Participating countries: Spain, Portugal, Italy, Rumania
Duration: Oct 2016 - Sept 2018
Role: Coordinator
- Synergy Analysis for strengthening of the research and knowledge transfer in Environmental technologies
Funding agency: AECE-PCI
Participating countries: Spain and Jordan
Duration: Jan 2012 - Dec 2012
Role: Researcher
- E2NHANCE : Educational Exchange Network for Academic Gap Narrowing between Central/South America and Europe.
Funding agency: European Commission – EACEA
Participating countries: Spain, Italy, Poland, Portugal, Finland, Costa Rica, Colombia, Panama
Duration: July 2009- Sept 2013
Role: Coordinator

- Automation and control for optimal operation of wastewater treatment plants.
 Funding agency: AEI-PCI (A/018462/08)
 Participating countries: Spain and Costa Rica
 Duration: Jan 2009 - Dec 2009
 Role: Coordinator

- EPCE : Environmental process Control Engineering.
 Funding Agency: EACEA-SOCRATES CD Project. 29438-IC-1-2005-ES-ERASMUS-PROGUC-3
 Participating countries: Spain, Scotland and Italy
 Duration: Oct 2006 - Set 2008
 Role: Coordinator

- E4DCs European Environmental Engineering Education for Developing Countries.
 Funding Agency: EACEA - ERASMUS MUNDUS Action 4 Project 2007-2010
 Participating countries: Italy, Poland, China and Spain
 Duration Nov 2007 - Oct 2010
 Role: Local Coordinator (Spain)

- JoMDE - A New Jordanian MSc in Water Management and Desalination Engineering.
 Funding Agency: European Commission 144727-TEMPUS-1-2008-1-ITTEMPUS-JPCR
 Participating countries: Jordan, Italy, Greece, and Spain
 Duration: Jan 2009 - Dec 2011
 Role: Local Coordinator (Spain) - (general coordinator Prof. A. Capodaglio University of Pavia)

- WWWT & SYSENG: Getting systems engineering into regional wastewater treatment strategies.
 Funding Agency: European Comisión, HPRN-CT-2001-00200, 2002-2006
 Participating countries: Scotland, England, Italy, Greece, Sweden, Denmark and Spain
 Duration: Feb 2002 - Jan 2006
 Role: Local Coordinator (Spain) – (general coordinator Prof. M.A. Johnson Strathclyde University)

Relevant Nationally funded projects

- E-TROTLE Environmental TRansition of Operation based on Transfer Learning Enhancement
 Funding agency: TED2021-129134B-I00 (Spanish Minsitry)
 Participating countries: Spain
 Duration: Dec 2022- Dec 2024
 Role: Coordinator

- Sustainable operation of integrated water systems through intelligent and distributed supervision and control methodologies
 Funding agency: PID2019-105434RB-C33 (Spanish Minsitry)
 Participating countries: Spain
 Duration: January 2020- December-2024

- GEMCO: Control and operation strategies for greenhouse gas emissions mitigation: application to wastewater treatment plants.
 Funding agency: MINECO DPI2016-77271-R (Spanish Minsitry)
 Participating countries: Spain
 Duration: January 2017- December 2019
 Role: Coordinator

- REDIC: Control Engineering Thematic Network
Funding agency: MINECO DPI2014-51731-REDT (Spanish Minsitry)
Participating countries: Spain
Duration: December 2014- February 2017
Role: Coordinator
- GLOBEDAR: Development of advanced control strategies for WWTP: global cost/quality criteria for nutrient removal and minimization of environmental impact.
Funding agency: MINECO DPI2013-47825-C3-1-R (Spanish Minsitry)
Participating countries: Spain
Duration: January 2014- December 2016
Role: Coordinator
- COSEDAR : Sustainable Control an Operation of WWTP for simultaneous elimination of DQO, N and P: Application of Multiobjective Optimization algorithms and robust autotuning control approaches.
Funding agency: MINECO DPI2010-15230 (Spanish Minsitry)
Participating countries: Spain
Duration: January 2011- December 2013
Role: Coordinator
- PEDRO: Performance Driven but Robustness Oriented control systems design.
Funding Agency: CICYT DPI2007-63356
Duration: Dec 2007 - Dec 2010
Role: Coordinator
- Analysis of configurations and design procedures for high performance control systems under uncertainty.
Funding Agency: CICYT-DPI2004-0693
Duraion: Dec 2004 - Dec 2007
Role: Coordinator
- Competences and skills evaluation within the Engineering graduation project
Funding Agency: Spanish Minsitry. MEC EyA (EA2008-0094)
Duration: Jul 2008 – Jan 2009
Role: Participant (Coordinator E. Valderrama, UAB)
- CARONTE: Software paltform for teaching activity management. Impact analysis on engineering subjects and its adaptation to the EEES
Funding Agency: Spanish Ministry MEC –EyA (EA2008-0089)
Duration: Sep 2008 - Jan 2009
Role: Participant (Coordinator E. Marti, UAB)

Relevant Regionally / Locally funded projects

- Role Playing and PBL strategies for the development of transversal skills and competences
Funding: UAB MQD08
Duration: Nov 2008 - Jul 2009
Role: Coordinator
- Design of learning strategies for the assimilation of transversal and bussiness competences within the engineering domain.
Funding: UAB MQD07

Duration: Nov 2007 - Jul 2008

Role: Coordinator

- Evaluation guide for project evaluation
Funding: MQD-UPC08
Duration: Sep 2008 - Oct 2009
Role: Participant, (Coordinator B. Amante, UPC)
- Role-Playing strategies applied to Engineering projects.
Funding: MQD-UPC08
Duration: Sep 2008 - Oct 2009
Role: Participant (Coordinator P. Ponsa, UPC)
- Guide for the evaluation of skills and competences on Engineering graduation projects.
Funding: Catalan Government AQU-07
Duration: Feb 2009 - Dec 2009
Role: Participant, (Coordinator B. Amante, UPC)

SCIENTIFIC PUBLICATIONS

BOOKS

- [BK-7] J.D. Rojas O. Arrieta, **R. Vilanova**, *Industrial PID Controller Tuning: With a Multi - objective Framework Using MATLAB*. Springer. London, Advances in Industrial Control, ISBN 978-3-030-72311-8
- [BK-6] S. Alcantara, **R. Vilanova**, C. Pedret *PID Tuning : A Modern Approach via the Weighted Sensitivity Problem*. CRC Press Taylor & Francis, ISBN: 978-0367343729
- [BK-5] I. Santin, C.Pedret, **R. Vilanova**, *Control and decision strategies in wastewater treatment plants for plant operation improvement*, Springer International Publishing. Intelligent Systems, Control and Automation: Science and Engineering Volume 86, 2017. ISBN: 978-3-319-46366-7
- [BK-4] V.M. Alfaro, **R. Vilanova**. *Model-Reference Robust Tuning of PID Controllers*, Springer International Publishing. Advances in Industrial Control. Science and Engineering Volume 86, 2016. ISBN: 978-3-319-28213-8
- [BK-3] **R. Vilanova**, A. Visioli (Eds) *PID Control in the third Millenium: Lessons learned and new approaches*. Springer-Verlag London, Advances in Industrial Control, ISBN 978-1-4471-2424-5
- [BK-2] P. Ponsa, **R. Vilanova**. *Automatizaci3n de procesos mediante la Guia GEMMA*. Ediciones UPC, VOL 102 (118p), 2005 (textbook, written in spanish)
- [BK-1] I. Serra, **R. Vilanova**. *Tractament del Senyal*. Publicacions UAB, Colecci3n Manuals, Num 25,(385 p), 2000 (textbook, written in catalan)

BOOK CHAPTERS

- [BKC-7] **R. Vilanova**, V.M. Alfaro, O. Arrieta, *Robustness in PID control*. (book Chapter) In *PID Control in the third Millenium: Lessons learned and new approaches*. Springer,, March 2012, ISBN 978-1-4471-2424-5
- [BKC-6] V.M. Alfaro, **R. Vilanova**, *Fragility Evaluation of PI and PID Controllers Tuning Rules*. (book Chapter) In *PID Control in the third Millenium: Lessons learned and new approaches*. Springer, March 2012, ISBN 978-1-4471-2424-5
- [BKC-5] O.Arrieta, **R. Vilanova**, V.M. Alfaro, *Balanced Performance/Robustness PID Design* (Book Chapter) in *Intelligent Control and Innovative Computing*, Lecture Notes in Electrical Engineering, Vol 110, Springer, 2011, ISBN 978-1-4614-1694-4
- [BKC-4] **R. Vilanova**, O. Arrieta *Combined Sensitivity/Complementary Sensitivity min-max approach for load disturbance/setpoint tradeoff design*. (Book Chapter). Recent Advances in Industrial Engineering and Operations Research, Springer, 2008 . ISBN 978-0-387-74903-7
- [BKC-3] S. Alcantara, C. Pedret and **R. Vilanova**, *A Model Reference Based 2-DOF Robust Observer-Controller Design Methodology*. New Approaches in Automation and Robotics, I-Tech Education and Publishing, Vienna, Austria (Book Chapter) ISBN 978-3-902613-26-4, 392 pages 2008
- [BKC-2] P. Balaguer, **R. Vilanova**, *A new Frequency Dependent Approach for Model Validation*. Adaptive Control, I-Tech Education and Publishing, Vienna, Austria (Book Chapter) 2008
- [BKC-1] P. Ponsa, **R. Vilanova**, M. Diaz and A. Gomà. *A human factors approach to supervisory control interface improvement*. Robotics, Automation and Control, I-Tech Education and Publishing, Vienna, Austria (Book Chapter) 2008

JOURNALS

2023

- [2023-1] Pisa, I.; Morell, A.; Vicario, J.L. **Vilanova, R.**; *Transfer Learning in Wastewater Treatment Plants Control: Measuring the Transfer Suitability*, Journal of Process Control 124 (2023) 36–53)
- [2023-2] P. Aryana, G.L.L. Rajaa, **R. Vilanova**, *Experimentally verified optimal bi-loop re-located IMC strategy for unstable and integrating systems with dead time*. International Journal of Systems Science, 54:7, 1531-1549
- [2023-3] Shitao Ruan, **R. Vilanova**, Weidong Zhang, *Robust 2DoF PI tuning rules for integrating processes with dead time via frequency response model matching*, Journal of the Franklin Institute, 2023, ISSN 0016-0032, Volume 360, Issue 9, June 2023, Pages 6232-6252
- [2023-4] P. Aryan, G. Lloyds Raja, **R. Vilanova** and M. Meneses, *Repositioned Internal Model Control Strategy on Time-Delayed Industrial Processes With Inverse Behavior Using Equilibrium Optimizer* IEEE Access, vol. 11, pp. 54556-54568, 2023, doi: 10.1109/ACCESS.2023.3281691.
- [2023-5] I. Santín, M. Meneses, C. Pedret, M. Barbu, **R. Vilanova**, *Nitrous oxide reduction in wastewater treatment plants by the regulation of the internal recirculation flow rate with a fuzzy controller*, Journal of Water Process Engineering, Volume 53, 2023, 103802, ISSN 2214-7144

2022

- [2022-1] R. Kurokawa, N. Kawaguchi, T. Sato, **Vilanova, R.** *DATA-DRIVEN REGULATOR PID CONTROL USING A MODEL-REFERENCE ROBUST TUNING METHOD* . International Journal of Innovative Computing, Information and Control ISSN 1349-4198, Volume 18, Number 1, February 2022
- [2022-2] S Vasiliev, I.; Luca, L.; Barbu, M.; **Vilanova, R.**; Caraman, S. *Optimal Control Strategy of a Sewer Network*. Water 2022, 14, 1062. <https://doi.org/10.3390/w14071062>
- [2022-3] Meneses, H.; Arrieta, O.; Padula, F.; Visioli, A.; **Vilanova, R.** *FOPID/FOPID Tuning Rule Based on a Fractional Order Model for the Process*. Fractal Fract. 2022, 6, 478. <https://doi.org/10.3390/fractalfract6090478>
- [2022-4] V.M. Alfaro, **Vilanova, R.** *PID control: Resilience with respect to controller implementation*, Front. Control Eng., 25 November 2022, Sec. Control and Automation Systems Volume 3 - 2022 | <https://doi.org/10.3389/fcteg.2022.1061830>

2021

- [2021-1] Santín, I, **Vilanova R.** , C. Pedret, M. Barbu, *New approach for regulation of the internal recirculation flow rate by fuzzy logic in biological wastewater treatments*, ISA Transactions, 2021, ISSN 0019-0578,
- [2021-2] Alcántara, S., **Vilanova, R.**, Pedret, C. 2021. *PID Tuning: Analytical approach based on the weighted Sensitivity problem*. Revista Iberoamericana de Automática e Informática Industrial 00, 1-5. <https://doi.org/10.4995/riai.2021.15422>
- [2021-3] Pisa, I.; Morell, A.; **Vilanova, R.**; Vicario, J.L. *Transfer Learning in Wastewater Treatment Plant Control Design: From Conventional to Long Short-Term Memory-Based Controllers*. Sensors 2021, 21, 6315. <https://doi.org/10.3390/s21186315>
- [2021-4] Revollar, S.; Meneses, M.; **Vilanova, R.**; Vega, P.; Francisco, M. *Eco-Efficiency Assessment of Control Actions in Wastewater Treatment Plants*. Water 2021, 13, 612. <https://doi.org/10.3390/w13050612>
- [2021-5] Pisa, I.; Morell, A.; **Vilanova, R.**; Vicario, J.L. *Industrial Control under Non-Ideal Measurements: Data-Based Signal Processing as an Alternative to Controller Retuning*. Sensors 2021, 21, 1237. <https://doi.org/10.3390/s21041237>
- [2021-6] V.M. Alfaro, **Vilanova, R.** *Control of high-order processes: repeated-pole plus dead-time models' identification*, International Journal of Control, DOI: 10.1080/00207179.2021.1954240
- [2021-7] V.M. Alfaro, **Vilanova, R.** *Control of high-order processes: Near-optimal robust tuning of PID regulators for repeated-pole plus dead-time models*, International Journal of Control, DOI: 10.1080/00207179.2021.1983642
- [2021-8] Abdul Gaffar Sheik, E.S.S. Tejaswini, Murali Mohan Seepana, Seshagiri Rao Ambati, Montse Meneses and Ramon Vilanova *Design of Feedback Control Strategies in a Plant-Wide Wastewater Treatment Plant for Simultaneous Evaluation of Economics, Energy Usage and Removal of Nutrients*, Energies 2021, 14, 6386. <https://doi.org/10.3390/en14196386>

[2021-8] Condrachi, L.; Vilanova, R.; Meneses, M.; Barbu, M. *Anaerobic Digestion Process Control Using a Data-Driven Internal Model Control Method*. *Energies* 2021, 14, 6746. <https://doi.org/10.3390/en14206746>

2020

- [2020-1] R. Kurokawa, T. Satoa, R. Vilanova, Y. Konishi *Design of Optimal PID Control with a Sensitivity Function for Resonance Phenomenon-involved Second-order Plus Dead-time System* *Journal of the Franklin Institute*, In Press, April 2020
- [2020-2] S. Revollar, R. Vilanova, P. Vega, M. Francisco, M. Meneses, *Wastewater treatment plant operation: simple control schemes with an holistic perspective*, *Sustainability* 2020, 12(3), 768
- [2020-3] Gohar Ali, H.; Vilanova Arbos, R.; Herrera, J.; Tobón, A.; Peláez-Restrepo, J. *Non-Linear Sliding Mode Controller for Photovoltaic Panels with Maximum Power Point Tracking*. *Processes* 2020, 8, 108.
- [2020-4] S. Revollar, M. Meneses, R. Vilanova, P. Vega, M. Francisco *Quantifying the Benefit of a Dynamic Performance Assessment of WWTP*, *Processes* 2020, 8, 206.
- [2020-5] Pisa, I.; Morell, A.; Vicario, J.L.; Vilanova, R. *Denosing Autoencoders and LSTM-Based Artificial Neural Networks Data Processing for Its Application to Internal Model Control in Industrial Environments—The Wastewater Treatment Plant Control Case*. *Sensors* 2020, 20, 3743.
- [2020-6] J. Gámiz, R. Vilanova, H. Martínez-García, Y. Bolea and A. Grau, "Fuzzy Gain Scheduling and Feed-Forward Control for Drinking Water Treatment Plants (DWTP) Chlorination Process," in *IEEE Access*, vol. 8, pp. 110018-110032, 2020, doi: 10.1109/ACCESS.2020.3002156.
- [2020-7] M.A. Prada, M. Dominguez, J.L. Vicario, P. Alves, M. Barbu, M. Podpora, U. Spagnolini, M.J. Varanda, R. Vilanova., "Educational Data Mining for Tutoring Support in Higher Education: A Web-Based Tool Case Study in Engineering Degrees," in *IEEE Access*, vol. 8, pp. 212818-212836, 2020, doi: 10.1109/ACCESS.2020.3040858.

2019

- [2019-1] I. Pisa, I. Santin, A. Morell, J. L. Vicario and R. Vilanova, "*LSTM-Based Wastewater Treatment Plants Operation Strategies for Effluent Quality Improvement*," in *IEEE Access*, vol. 7, pp. 159773-159786, 2019.
- [2019-2] I. Santin, M. Barbu, C. Pedret, R. Vilanova. *Dissolved Oxygen Control in Biological Wastewater Treatments with Non-Ideal Sensors and Actuators*, *Ind. Eng. Chem. Res.* 2019, 58, 45, 20639-20654
- [2019-3] Pisa, I.; Santin, I.; Vicario, J.L.; Morell, A.; Vilanova, R. *ANN-Based Soft Sensor to Predict Effluent Violations in Wastewater Treatment Plants*. *Sensors* 2019, 19, 1280.
- [2019-4] Sato, T.; Hayashi, I.; Horibe, Y.; Vilanova, R.; Konishi, Y. *Optimal Robust PID Control for First- and Second-Order Plus Dead-Time Processes*. *Appl. Sci.* 2019, 9, 1934.

2018

- [J2018-1] T. Sato, H. Tajika, R. Vilanova, Y. Konishi. *Adaptive PID Control System with Assigned Robust Stability*, *IEEE Transactions on Electrical and Electronic Engineering*, To appear (2018) Engineering, Electrical & Electronic –Q4 (233/261)- IF-0.517(JCR2017)
- [J2018-2] M. Barbu, I. Santin, R. Vilanova. *Applying Control Actions for Water Line and Sludge Line To Increase Wastewater Treatment Plant Performance*, *Industrial & Engineering Chemistry Research*, *Ind. Eng. Chem. Res.*, 2018, 57 (16), pp 5630–5638 Environmental engineering -Q1 (2/50)- IF-5.99 (JCR2016)
- [J2018-3] I. Santin, M. Barbu, C. Pedret, R. Vilanova. *Fuzzy logic for plant-wide control of biological wastewater treatment process including greenhouse gas emissions*, *ISA Transactions*, Volume 77, June 2018, Pages 146-166 Automation & Control Systems – Q1 (9/59) - IF-2.6 (JCR2016)
- [J2018-4] R. Vilanova, O. Arrietab,, P. Ponsa, *Robust PI/PID controllers for load disturbance based on direct synthesis*, *ISA Transactions*. Volume 81, 2018, Pages 177-196

2017

- [J2017-1] I. Santin, M. Barbu, C. Pedret, R. Vilanova. *On the evaluation of the global impact of control strategies applied to wastewater treatment plants*, *Water Research*, 2017, 125C, pp. 466-477 Environmental engineering -Q1 (2/50)- IF-5.99 (JCR2016)

- [J2017-2] M. Barbu, R. Vilanova, M. Meneses, I. Santin. *On the evaluation of the global impact of control strategies applied to wastewater treatment plants*, **Journal of Cleaner Production**, 2017, 149 396-405
Environmental engineering -Q1 (5/50)- IF-4.96 (JCR2016)
- [J2017-3] H.S. Sanchez, A. Visioli, R. Vilanova. *Optimal Nash tuning rules for robust PID controllers*, **Journal of the Franklin Institute**, Volume 354, Issue 10, July 2017, Pages 3945-3970
Environmental engineering -Q1 (5/50)- IF-4.96 (JCR2016)
- [J2017-4] P. Mercader, A. Baños, R. Vilanova, *Robust PID design for processes with interval parametric uncertainty*, **IET Control Theory and Applications** (to appear 2017)
Automation & Control Systems – Q2 (18/59) - IF-1.96 (JCR2016)
- [J2017-5] H.S. Sanchez, F. Padula, A. Visioli, R. Vilanova. *Tuning rules for robust FOPID controllers based on multi-objective optimization with FOPDT models*. **ISA Transactions** (accepted for publication, 2017)
Automation & Control Systems – Q1 (9/59) - IF-2.6 (JCR2016)
- [J2017-6] R. Vilanova, I. Santin, C. Pedret, *Control and operation of Wastewater treatment plants: state of the art*. **RIAI – Revista Iberoamericana de Automática e Informática**, Vol. 14, Núm. 4 (2017)
Automation & Control Systems – Q4 (49/59) - IF-0.475 (JCR2016)
- [J2017-7] R. Vilanova, I. Santin, C. Pedret, *Control and operation of Wastewater treatment plants: modelling and Simulation*. **RIAI – Revista Iberoamericana de Automática e Informática** Vol. 14, Núm. 3 (2017)
Automation & Control Systems – Q4 (49/59) - IF-0.475 (JCR2016)
- [J2017-8] R. Vilanova, A. Visioli, *The Proportional-Integral-Derivative (PID) Controller*. **Wiley Enciclopedia of Electrical and Electronic Engineering**, Aug, 2017
- [J2017-9] S. Revollar, P. Vega, R. Vilanova, M. Francisco, *Optimal Control of Wastewater Treatment Plants Using Economic-Oriented Model Predictive Dynamic Strategies*. **Appl. Sci.** 2017, 7, 813,

2016

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