

## Enfoque y alcance

La **Revista Iberoamericana de Automática e Informática Industrial (RIAI)** es el órgano de expresión del **Comité Español de Automática (CEA)**, miembro de la Federación Internacional de Control Automático (**IFAC**). La revista se desarrolla en el marco de la comunidad iberoamericana, y en general, en los entornos en los que el español constituye el idioma básico y no excluyente de comunicación. RIAI engloba el amplio campo de la **Teoría de Control**, la **Ingeniería de Sistemas**, la **Automatización**, la **Robótica**, la **Regulación Automática** y las diferentes tecnologías empleadas en la realización de los sistemas de control, en particular los basados en computadores y redes de comunicaciones.

Dentro del campo citado previamente, RIAI engloba artículos enmarcados en las siguientes temáticas, **siempre que tengan contenidos relacionados con la Automática y la Informática Industrial.**

- Teoría de control y sistemas.
- Ingeniería de control de procesos e instrumentación.
- Técnicas de control avanzado.
- Automatización y control de sistemas de producción.
- Robótica y sistemas robotizados.
- Arquitecturas de control y tecnología de computadores aplicada al control automático de sistemas.
- Sistemas de tiempo real e informática industrial aplicados al control automático de sistemas.
- Filtrado, estimación y análisis y tratamiento de señales e imágenes aplicados al control automático de sistemas.
- Visión por computador aplicada al control automático de sistemas.
- Modelado, identificación, simulación y optimización de sistemas.
- Inteligencia computacional y técnicas de supervisión y detección de fallos aplicados al control automático de sistemas.
- Historia de la automática. La automática en sistemas sociales, económicos y empresariales.
- Cuestiones docentes y de formación en automática.
- Control de sistemas en red y complejos a gran escala.
- Control de procesos industriales, sistemas energéticos, mineros, ingeniería civil y edificios.
- Control de sistemas de transporte y vehículos.
- Control en bioingeniería, biología, agricultura, ecología y medicina.
- Control de máquinas y motores y mecatrónica.

## LISTADO DE ARTÍCULOS RECIENTES POR AÑOS

<b>2022</b>	
Maestre, J. M., Chanfreut, P., García Martín, J., Masero, E., Inoue, M. y F. Camacho, E. (2022). "Predictive Control of Cyber-Physical Systems". <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 1–12. doi: 10.4995/riai.2021.15771.	Model predictive control, robots and multi-robot systems control, cyber-physical systems control, human-machine interaction in automatic control systems, coalitional control
Vallejo, P. M. and Vega, P. (2022) "Integration of the FMBPC strategy in a Closed-Loop Predictive Control structure. Application to the control of activated sludge", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 13–26. doi: 10.4995/riai.2021.15793.	Model-based predictive control, Fuzzy control and fuzzy systems in control, Intelligent control techniques, Control of systems with restrictions, Multivariable control, Automatic control of water treatment systems
Vacca Sisterna, C., Serrano, E., Scaglia, G. and Rossomando, F. (2022) "Mixed control for trajectory tracking in marine vessels", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 27–36. doi: 10.4995/riai.2021.15027.	Adaptive control, linear algebra, trajectory tracking, marine vessel, nonlinear control
Armesto, L. and Sala, A. (2022) "Volume-weighted Bellman error method for adaptive meshing in approximate dynamic programming", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 37–47. doi: 10.4995/riai.2021.15698.	Intelligent control, approximate dynamic programming, optimal control, neural learning
Barahona-Avalos, J. L., Juárez-Abad, J. A., Galván-Cruz, G. S. and Linares-Flores, J. (2022) "Active disturbance rejection control of temperature of thermoelectric module", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 48–60. doi: 10.4995/riai.2021.14728.	Thermoelectric module, active disturbance rejection, GPI observer
Guerrero-Castellanos, J. F. and González-Romeo, L. L. (2021) "Position control system via active disturbance rejection for laser optical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 61–73. doi: 10.4995/riai.2021.14852.	Laser beam stabilization system, active disturbance rejection control, linear extended state observer, input-to-state stability (ISS)
Vázquez, U., González-Sierra, J., Fernández-Anaya, G. and Hernández-Martínez, E. G. (2022) "Performance analysis of a PID fractional order control in a differential mobile robot", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 74–83. doi: 10.4995/riai.2021.15036.	Fractional control, Differential-drive robot, Tracking control, PID Control
Sánchez, R., Sierra-García, J. E. and Santos, M. (2022) "Modelling of a hybrid differential-tricycle AGV", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 84–95. doi: 10.4995/riai.2021.14622.	Modelling and simulation, AGV, Tricycle, Differential, Dynamic model, Kinematics, Autonomous Robots
López, M. G., Artega, M. A., Gutiérrez, A. I. and Nuño, E. (2022) "Experimental results on the control of a robot bilateral teleoperation system with time varying delays", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 96–107. doi: 10.4995/riai.2021.14834.	Bilateral teleoperators, observer design, time varying delays, delayed kinematic correspondence
Llorella, F. R., Iáñez, E., Azorín, J. M. and Patow, G. (2022) "Binary visual imagery discriminator from EEG signals based on convolutional neural networks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 108–116. doi: 10.4995/riai.2021.14987.	Brain-switch, visual imagery, convolutional neuronal network, power spectral density, EEG
Muñoz de la Peña, D., Domínguez, M., Gomez-Estern, F., Reinoso, Óscar, Torres, F. and Dormido, S. (2022) "State of the art of control education", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 117–131. doi: 10.4995/riai.2022.16989.	Control engineering curriculum, E-learning, distance learning and learning management systems,

	Experimental platforms, Automatic evaluation, Long-life learning, Teaching tools and laboratories, Interactive tools, virtual and remote laboratories, Teaching methodologies, Industry relations
Munoz-Ceballos, N. D. and Suarez-Rivera, G. (2022) "Performance criteria for evaluating mobile robot navigation algorithms: a review", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 132–143. doi: 10.4995/riai.2022.16427.	Mobile robot, control system, trajectory tracking, performance index, energy, navigation algorithm
Javier, Uzal, L. and Pire, T. (2022) "WGANVO: monocular visual odometry based on generative adversarial networks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 144–153. doi: 10.4995/riai.2022.16113.	Localization, Neural networks, Mobile robots
Diaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2022) "Eye-to-hand calibration of an industrial robotic arm with structured light 3D cameras", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 154–163. doi: 10.4995/riai.2021.16054.	Hand-eye calibration, Industrial robotics, Computer vision applied to robotics, Autonomous robotic systems
González Hernández, J., Rodríguez Miranda, E., Guzmán Sánchez, J. L., Acien Fernández, F. G. and Visioli, A. (2022) "Temperature optimization in microalgae raceway reactors by depth regulation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 164–173. doi: 10.4995/riai.2022.16586.	Microalgae, Open reactors, Temperature optimization, Control
Garrido Satué, M., Castaño Castaño, F., Ortega Linares, M. G. and Rodríguez Rubio, F. (2022) "Pointing performance evaluation of control strategies for high concentration photovoltaic sun trackers", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 174–185. doi: 10.4995/riai.2022.16905.	Control of renewable energy resources, Modeling, Tracking, Energy systems, Identification and control methods
Ochoa Sosa, J. E., Rubén, Oggier, G. E., Oggier, G. G. and Guillermo (2022) "Fault-Tolerant Scheme of Load-Side Transistors Applied to Three-Phase Dual Active Bridge DC-DC Converters", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 186–198. doi: 10.4995/riai.2022.15408.	Three-Phase Dual Active Bridges Converter, power electronics systems, modeling and simulation, detection and diagnosis
Beristáin, J. A. and Pérez, J. (2022) "Bidirectional three-phase DC-AC converter with high frequency isolation: modeling using switching functions", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 199–209. doi: 10.4995/riai.2022.14936.	High-frequency-link isolation, switching functions, modelling, bidirectional power flow
da Cunha e Silva, L. C. and Andrade Romero, J. F. (2022) "Hybrid methodology for filling level estimation in ball mill", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 210–220. doi: 10.4995/riai.2021.13064.	System identification and parameter estimation, mining, hybrid systems modeling, monitoring and supervision
Hernández-Vázquez, J. O., Hernández-González, S., Hernández-Vázquez, J. I., Jiménez-García, J. A. and Hernández-Ripalda, M. D. (2022) "Multi-objective analysis of the buffer allocation problem with simulation meta-models and a hybrid metaheuristic", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 221–232. doi: 10.4995/riai.2021.15731.	Buffer allocation problem (BAP), meta-models, hybrid metaheuristic, optimization, production line
Ramos-Teodoro, J. and Rodríguez, F. (2022) "Distributed energy production, control and management: a review of terminology and common approaches", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 233–253. doi: 10.4995/riai.2022.16497.	Microgrids, virtual power plants, energy hubs, multi-energy systems, distributed multi-generation, economic dispatch, energy management, Model-based predictive control, control and scheduling

Castro, L., Bueno-López, M. and Juan (2022) "Strategy for the implementation of hierarchical control in microgrids", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 254–264. doi: 10.4995/riai.2022.15741.	Microgrid, Voltage Source Converter, Fuzzy Control, Hierarchical control
Yudho-Montes de Oca, E., Maya-Rodríguez, M. C., Tolentino-Eslava, R. and Lozano-Hernández, Y. (2022) "A real-time stable neuro-controller to reduce the energy consumption in a centrifugal pump under disturbances", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 265–273. doi: 10.4995/riai.2022.16060.	Neural Networks, Process control, Real-time control, Adaptive control by neural networks, Water supply and distribution systems
Hoyo Sánchez, Ángeles, Guzmán Sánchez, J. L., Moreno Úbeda, J. C. and Baños Torrico, A. (2022) "Robust control of pH in a raceway photobiorreactor", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 274–283. doi: 10.4995/riai.2022.16731.	Robust control, QFT, Raceway, Fotobioreactors, Microalge
de Prada, C., Galán-Casado, S., Pitarch, J. L., Sarabia, D., Galán, A. and Gutiérrez, G. (2022) "Digital twins for process industry", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 285–296. doi: 10.4995/riai.2022.16901.	Modelling and decision making in complex systems, Simulation, Real time optimization and control, Parameter and state estimation, Monitoring and performance assessment, Human operator support
Cevallos, D., Martín, C. A., El Mistiri, M., Rivera, D. E. and Hekler, E. (2022) "A decision framework for an adaptive behavioral intervention for physical activity using hybrid model predictive control: illustration with Just Walk", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 297–308. doi: 10.4995/riai.2022.16798.	Model predictive control of hybrid systems, control of physiological and clinical variables, system identification
Gallego Len, A. J., Sánchez del Pozo, A. J. and F. Camacho, E. (2022) "Application of model predictive control to parabolic trough thermal solar plants", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 309–317. doi: 10.4995/riai.2022.16664.	Automatic Control, Solar Energy, Predictive Controller, Parabolic-trough, Optimization
Garelli, F., Fushimi, E., Rosales, N., Arambarri, D., Serafini, M. C., De Battista, H., Grosebacher, L. A. and Sánchez-Peña, R. S. (2022) "Non-hybrid glycemetic control of type 1 diabetes ambulatory patients", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 318–329. doi: 10.4995/riai.2022.16652.	Artificial pancreas, clinical trials, switched control
Peccin, V. B., Lima, D. M., Flesch, R. C. C. and Normey-Rico, J. E. (2022) "Fast constrained dynamic matrix control algorithm with online optimization", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 330–342. doi: 10.4995/riai.2022.16619.	Model Predictive Control, Optimization, Fast Processes, FPGA, Automotive systems
Castillo, A., Garcia, P. and Albertos, P. (2022) "Disturbance Observer-Based Controllers: operating principles and design strategies", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 343–355. doi: 10.4995/riai.2022.16856.	Disturbance Observer-Based Controllers, Robust Control, Uncertain Systems, MIMO Systems, Optimal Control, LQR
Fernandez-Serantes, L. A., Casteleiro-Roca, J. L. and Calvo-Rolle, J. L. (2022) "Hybrid intelligent system for detection of Soft-Switching mode and control of a boost converter", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 356–368. doi: 10.4995/riai.2022.16656.	Classification, Half-bridge buck, Power electronics, Soft-switching, Hard-switching
Balbastre, P., Aceituno, J. M., Guasque, A., Blanes, J. F., Crespo, A. and Poza, J. L. (2022) "Scheduling of hard real-time systems using non-conventional techniques", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 369–379. doi: 10.4995/riai.2022.17148.	Real-time control systems, Control system scheduling, cyber physical systems, Embedded control systems
Mondié, S. and Gomez, M.-A. (2022) "Linear time-delay systems: the complete type functionals approach", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 381–393. doi: 10.4995/riai.2022.16828.	Time-delay systems, Stability analysis, Linear systems, Controller design
Moreno, J. A. and Fridman, L. (2022) "Lyapunov-based HOSM control",	Sliding Modes, Variable

Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 394–406. doi: 10.4995/riai.2022.17013.	Structure Control, Lyapunov Methods, Integral Control, Nonlinear Observers
Sandoval, J., Kelly, R. and Santibáñez, V. (2022) “On the energy shaping plus damping injection control of mechanical systems”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 407–418. doi: 10.4995/riai.2022.16862.	Energy control, Lyapunov stability, Robot control, Mechanical systems
Castaños, F. (2022) “Multi-valued control of port-Hamiltonian systems”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 419–429. doi: 10.4995/riai.2022.16814.	Passivity-based control, Lagrangian and Hamiltonian systems, differential inclusions, robust controller synthesis, controller constraints and structure
Rodríguez-Cortés, H. (2022) “Mexican researchers contributions to unmanned aerial vehicles control”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 430–441. doi: 10.4995/riai.2022.16870.	Unmanned Aerial Vehicles, Energy based control, Real Time
Espinosa-Pérez, G. (2022) “Control of electric power microgrids: a hamiltonian approach”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control
<b>2023</b>	
Mora, J. P., Samper, J. and Carlos F. (2023) “Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 1–12. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
García, J. M., Yáñez, P. and Martínez, J. E. (2023) “Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 13–24. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope negotiation
G. Satué, M., R. Arahál, M. and R. Ramírez, D. (2023) “Rotor Current Estimation in Predictive Control of Multi-phase Drives”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 25–31. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation
Calle Chojeda, E., Oliden Semino, J. and Ipanaqué Alama, W. (2023) “Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 32–43. doi: 10.4995/riai.2022.17375.	model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) “Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 44–55. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2023) “Modular distributed architecture for intelligent traffic control”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 56–67. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
Aguirre-Zapata, E., Garcia-Tirado, J., Morales, H., di Sciascio, F. and Amicarelli, A. N. (2023) “Methodology for modeling and parameter estimation of the growth process of <i>Lobesia botrana</i> ”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 68–79. doi: 10.4995/riai.2022.17746.	Modeling and identification of biological systems, Parameter estimation, Gray box modeling, <i>Lobesia botrana</i> , Nonlinear least-squares, Structural identifiability
Morales, H., Aguirre-Zapata, E., di Sciascio, F. and Amicarelli, A. N. (2023) “Control strategies with variable Setpoint applied to the C Crystallization	Supersaturation, Crystallization Processes, Control strategy

process in the sugar industry”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 81–92. doi: 10.4995/riai.2022.17096.	with variable Setpoint, Mass of Crystals
Gomez, J., Rossomando, F. ., Capraro, F. . and Soria, C. (2023) “Real-time neuro-adaptive PI control of soil moisture using a hybrid model”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 93–103. doi: 10.4995/riai.2022.17106.	Precise irrigation, soil moisture model, drip irrigation, neural PI control
Anderson, J. L., Moré, J. J., Puleston, P. F., Roda, V. and Costa-Castelló, R. (2023) “Super-Twisting control with zero crossing gain adaptation. Stability analysis and validation”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 104–114. doi: 10.4995/riai.2022.17214.	Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems
García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2022) “Improving the navigability of a mobile robot considering the energy consumption of its arm”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 115–123. doi: 10.4995/riai.2022.17806.	Energy consumption, Navigability, Skid steer robot, Slide-Down, Tip-over stability, Vehicle steerability
Chacon, J., Goncalves, D., Besada, E. and López-Orozco, J. A. (2022) “A low-cost open-source remote laboratory for the educational robot arm Dobot Magician”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 124–136. doi: 10.4995/riai.2022.17477.	Robotics Education, Remote Laboratory, Robotic Arms, Robot Programming, EJS
Belman-López, C. E., Jiménez-García, J. A., Vázquez-Lopez, J. A. and Camarillo-Gómez, K. A. (2022) “Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 137–149. doi: 10.4995/riai.2022.17791.	Industry 4.0, system architecture, cloud computing, data analysis, applications development
Liu, R., Guzmán, J. L., García-Mañas, F. and Li, M. (2022) “Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 150–161. doi: 10.4995/riai.2022.18119.	Selective control, PI control, Event-based control, Agriculture, Greenhouses
Castaño-Amorós, J., Páez-Ubieta, I. de L., Gil, P. and Puente, S. T. (2022) “Visual-tactile manipulation to collect household waste in outdoor”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 163–174. doi: 10.4995/riai.2022.18534.	Visual detection, Object recognition, Object location, Tactile perception, Robotic manipulation
Prados, C., Hernando, M., Gambao, E. and Brunete, A. (2022) “ROMERIN: A climbing robotic organism based on modular legs with active suction cups”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 175–186. doi: 10.4995/riai.2022.18749.	Kinematics of robot for control, Model of robots and multi-robot systems for control, Field, marine, submarine and aerial robotics
Santamaria, S., Zalama, E., Gómez, R., Muñoz, P. and Gómez-García-Bermejo, J. (2023) “Cable driven robot for cleaning facades”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 187–198. doi: 10.4995/riai.2023.18695.	Facades cleaning robot, cable driven robot, esp32, robot kinematics for control, mechatronic, trajectory planning and tracking
Carrasco Martínez, S., Gamboa Montero, J. J., Maroto Gómez, M., Alonso Martín, F. . and Salichs, M. Ángel (2023) “Applying psychological and social strategies to increase engagement in human-robot interaction”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 199–212. doi: 10.4995/riai.2023.18739.	High-level human-robot engagement, Psychological strategies, Human-robot interaction, Social robots, Interaction time, Pet robots
Godoy-Calvo, J., Lin-Yang, D., Vázquez-Martín, R. and García-Cerezo, A. (2023) “Dynamic entropy-based method for exploring frontiers in unknown environments”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 213–223. doi: 10.4995/riai.2023.18740.	mobile robotics, autonomous mobile robotics, robot navigation, entropy, information theory
Velasco-Álvarez, F., Fernández-Rodríguez, Álvaro and Ron-Angevin, R. (2023) “Home automation system controlled through a brain-computer interface”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 224–235. doi: 10.4995/riai.2023.18718.	brain-computer interface, home automation, voice, event-related potential

Rodríguez, F., Garrido, D. O., Núñez, R. O., German G. and Guillermo O. (2023) "Feedback Linearization Control of a Dual Active Bridge Converter Feeding a Constant Power Load", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 237–246. doi: 10.4995/riai.2023.18546.	Dual active bridge converter, Power electronics, Nonlinear control, Feedback linearization, Constant power load
Costa, V., Sánchez, C., Perea, L., Rocon, E., Otero, A. and Raya, R. (2023) "Redesign based on clinical experience of a robotic walker for hip fracture rehabilitation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 247–258. doi: 10.4995/riai.2023.17839.	Assistive technology and rehabilitation engineering, Robotics technology, Human-centered systems engineering, Rehabilitation engineering and healthcare delivery, Mechatronics for mobility systems
Aginaga, J., García-Cuesta, I., Iriarte, X. and Plaza, A. (2023) "Maximum stiffness trajectories of a redundant robot acting as a support in thin-wall machining", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 259–268. doi: 10.4995/riai.2023.18977.	Industrial robotics, Redundant degree of freedom, Stiffness, Pose optimization, Performance index
Bilbao Moreno, D., Ferrer Uriarte, U., Viñals Abelan, J. J., Guerra Franco, G., Irigoyen Gordo, E. and Cabanes Axpe, I. (2023) "Self-coupling robotic system for the SIROM multifunctional interface", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 269–280. doi: 10.4995/riai.2023.19271.	Visual servoing control, position estimation, orientation estimation, adaptative control, force control, robotic manipulation, SIROM, robotic assembly
Continelli, N. A., Nagua Cuenca, L. F., Monje, C. A. and Balaguer, C. . (2023) "Modeling of a soft robotic neck using machine learning techniques", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 282–292. doi: 10.4995/riai.2023.18752.	Soft robotics, constant curvature (CC), machine learning, neural network, multilayer perceptron (MLP), activation function
Delgado-Oleas, G., Romero-Sorozabal, P., Lora-Millan, J., Gutierrez, A. and Rocon, E. (2023) "Design and development of a bioinspired electronic architecture for the control of locomotion assistance systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 293–302. doi: 10.4995/riai.2023.18748.	Biomimicry, architecture, exoskeletons, human gait, ROS, lower-limb
Gómez-Bravo, F., López de Ahumada Gutierrez, R. and Jiménez-Naharro, R. (2023) "A teaching approach for the development of skills in programming manipulator robots", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 303–314. doi: 10.4995/riai.2023.18756.	robotic arms, robot programming, modelling and simulation, RoboDK, education in robotics
Tassinari-Lagos, M., Romero-Sorozábal, P., Martín, C., Blanco, D., Malfaz, M. and Rocon, E. (2023) "New social robotic system for the rehabilitation of pediatric patients with cerebral palsy", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 315–326. doi: 10.4995/riai.2023.18785.	Cerebral Palsy, NAO robot, CPWalker, Assistive technology and rehabilitation engineering, Socially assistive robotics, EMG
Yime, E., Saltarén, R. J. and Roldán Mckinley, J. A. (2023) "Inverse dynamics of parallel robots: A tutorial with Lie algebra", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(4), pp. 327–346. doi: 10.4995/riai.2023.18356.	Parallel Robots, Dynamic Modelling, Multibody Dynamics, Five Bar Mechanisms, Planar 3-RRR Robot
Garrido Satué, M., Ruiz Arahál, M., Rodríguez Ramírez, D. and Barrero García, F. (2023) "Multi-phase predictive control using two Virtual-Voltage-Vector constellations", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(4), pp. 347–354. doi: 10.4995/riai.2023.19205.	Induction machines, Multi-phase systems, Performance maps, Predictive control, Virtual-Voltage-Vectors
Acosta Cano de los Ríos, P., Robledo-Vega, I., Rodríguez-Mata, A. E. and Baray-Arana, R. (2023) "Sliding mode surface coefficients directly in the control magnitude, a reduced effort approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 355-365. doi:	Sliding mode control, Control effort, Chain of integrators, Perturbation rejection, Chattering

10.4995/riai.2023.17980.	
Chávez-Gudiño , M. A., Concha-Sánchez, A., Maciel-Barboza, F. M., Gadi, S. K., Thenozhi, S. . and Jiménez Betancourt , R. . (2023) “Development and control of a low cost 2 DOF laboratory helicopter”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 366—378. doi: 10.4995/riai.2023.18942.	2-DOF helicopter, real-time control, parameter estimation, open-source software, low-cost technology
Caparroz, M., Otálora, P., Guzmán, J. L., Berenguel, M. and Ación, F. G. (2023) “Modeling and adaptive control of pH in raceway reactors for microalgae production”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 379—388. doi: 10.4995/riai.2023.19103.	Microalgae, Modeling, Open reactor, Adaptive control
Cerrada Collado, C., Chaos García, D., Moreno-Salinas, D. and Aranda Almansa, J. (2023) “Optimal control law of an AUV using a single thruster”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 389—400. doi: 10.4995/riai.2023.19034.	Automatic control of marine and underwater systems, Optimal control, Nonlinear control, Fault-tolerant control
González-Morgado, A., Álvarez-Cía, C., Heredia Benot, G. and Ollero Baturone, A. . (2023) “UAV Fully-Actuated: model, control and comparison with coplanar configuration”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 401—411, doi: 10.4995/riai.2023.19348.	UAVs, Aerial Robotics, Robotics, Modeling
Sanz Bermejo, F. J., Ramirez-Laboreo, Édgar and Sagues , C. . (2023) “Structural identifiability analysis of a heat transfer system”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 412—420, doi: 10.4995/riai.2023.19170.	Structural Identifiability, Grey-box thermal modeling, Lumped-parameter modeling, Recursive identification

### En prensa

Álvarez-Pastor, J., Martínez-Pascual, D., Blanco, A., Catalán, J. M., García-Aracil, N. and López-Labrador, F. (2023) “Configuration design of wearable robotic arms used in installation and maintenance tasks”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.18746.	supernumerary robot, robots manipulators, robots design, robots kinematics, assistive robotics
Manrique-Córdoba, J., Romero-Ante, J. D., Vicente Samper, J. M. and Sabater-Navarro, J. M. (2023) “Modelling and validation of the influence of the menstrual cycle on the glucose-insulin system in healthy individuals”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.18533.	Diabetes mellitus, mathematical model, glucose-insulin dynamics, menstrual cycle
Anzola Anzola, J. P., Simanca Herrera, F. A. and García-Díaz, V. (2023) “Jitter impact in a multi-agent formation control”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19440.	Automatic control of formations, multi-agent systems, Jitter, delay, simulation environment
Montenegro-Bravo, J. S., Ruiz-Flórez, J. D. ., Romero-Ante, J. D. ., Manrique-Córdoba, J. ., Vivas Albán, O. A. and Sabater-Navarro, J. M. (2023) “3D collision-free trajectory generator for a UR3e manipulator with soft gripper”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19332.	Path-planning, soft grippers, ROS, collaborative robots, robotic manipulation, free collision path
Sánchez-Sánchez, P., Cebada-Reyes, J. G., Montiel-Martínez, A. and Reyes-Cortés, J. F. (2023) “Implementation of Model Reference Adaptive Control in a Dehydration System”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19172.	Adaptive control, MRAC method, reference signal, thermal system, dehydrator, Lyapunov theory, performance index
Aceituno, J. M., Guasque, A., Balbastre Betoret, P., Simó, J., Pereira, C. E. and Crespo, A. (2023) “Scheduling techniques for optimising the performance of multicore real-time systems”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19935.	Real-time control systems, Real-time scheduling, cyber physical systems, Embedded control systems, Multicore



	systems, Contention, Neural networks
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## LISTADO DE ARTÍCULOS RECIENTES POR TEMÁTICAS



# Revista Iberoamericana de Automática e Informática Industrial



### Automática Marina

2022	
Paper	Original keywords
Vacca Sisterna, C., Serrano, E., Scaglia, G. and Rossomando, F. (2022) "Mixed control for trajectory tracking in marine vessels", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 27–36. doi: 10.4995/riai.2021.15027.	Adaptive control, linear algebra, trajectory tracking, marine vessel, nonlinear control
2023	
Cerrada Collado, C., Chaos García, D., Moreno-Salinas, D. and Aranda Almansa, J. (2023) "Optimal control law of an AUV using a single thruster", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 389—400. doi: 10.4995/riai.2023.19034.	Automatic control of marine and underwater systems, Optimal control, Nonlinear control, Fault-tolerant control

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Llorella, F. R., Iáñez, E., Azorín, J. M. and Patow, G. (2022) “Binary visual imagery discriminator from EEG signals based on convolutional neural networks”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 108–116. doi: 10.4995/riai.2021.14987.	Brain-switch, visual imagery, convolutional neuronal network, power spectral density, EEG
Garelli, F., Fushimi, E., Rosales, N., Arambarri, D., Serafini, M. C., De Battista, H., Grosembacher, L. A. and Sánchez-Peña, R. S. (2022) “Non-hybrid glycemic control of type 1 diabetes ambulatory patients”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 318–329. doi: 10.4995/riai.2022.16652.	Artificial pancreas, clinical trials, switched control
<b>2023</b>	
Velasco-Álvarez, F., Fernández-Rodríguez, Álvaro and Ron-Angevin, R. (2023) “Home automation system controlled through a brain-computer interface”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 224–235. doi: 10.4995/riai.2023.18718.	brain-computer interface, home automation, voice, event-related potential
Costa, V., Sánchez, C., Perea, L., Rocon, E., Otero, A. and Raya, R. (2023) “Redesign based on clinical experience of a robotic walker for hip fracture rehabilitation”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 247–258. doi: 10.4995/riai.2023.17839.	Assistive technology and rehabilitation engineering, Robotics technology, Human-centered systems engineering, Rehabilitation engineering and healthcare delivery, Mechatronics for mobility systems
Delgado-Oleas, G., Romero-Sorozabal, P., Lora-Millan, J., Gutierrez, A. and Rocon, E. (2023) “Design and development of a bioinspired electronic architecture for the control of locomotion assistance systems”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 293–302. doi: 10.4995/riai.2023.18748.	Biomimicry, architecture, exoskeletons, human gait, ROS, lower-limb
Tassinari-Lagos, M., Romero-Sorozábal, P., Martín, C., Blanco, D., Malfaz, M. and Rocon, E. (2023) “New social robotic system for the rehabilitation of pediatric patients with cerebral palsy”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 315–326. doi: 10.4995/riai.2023.18785.	Cerebral Palsy, NAO robot, CPWalker, Assistive technology and rehabilitation engineering, Socially assistive robotics, EMG
<b>En prensa</b>	
Manrique-Córdoba, J., Romero-Ante, J. D., Vicente Samper, J. M. and Sabater-Navarro, J. M. (2023) “Modelling and validation of the influence of the menstrual cycle on the glucose-insulin system in healthy individuals”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.18533.	Diabetes mellitus, mathematical model, glucose-insulin dynamics, menstrual cycle

## Control Inteligente

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Armesto, L. and Sala, A. (2022) "Volume-weighted Bellman error method for adaptive meshing in approximate dynamic programming", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 37–47. doi: 10.4995/riai.2021.15698.	Intelligent control, approximate dynamic programming, optimal control, neural learning
Yudho-Montes de Oca, E., Maya-Rodríguez, M. C., Tolentino-Eslava, R. and Lozano-Hernández, Y. (2022) "A real-time stable neuro-controller to reduce the energy consumption in a centrifugal pump under disturbances", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 265–273. doi: 10.4995/riai.2022.16060.	Neural Networks, Process control, Real-time control, Adaptive control by neural networks, Water supply and distribution systems
Fernandez-Serantes, L. A., Casteleiro-Roca, J. L. and Calvo-Rolle, J. L. (2022) "Hybrid intelligent system for detection of Soft-Switching mode and control of a boost converter", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 356–368. doi: 10.4995/riai.2022.16656.	Classification, Half-bridge buck, Power electronics, Soft-switching, Hard-switching
<b>2023</b>	
Gomez, J., Rossomando, F. , Capraro, F. . and Soria, C. (2023) "Real-time neuro-adaptive PI control of soil moisture using a hybrid model", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 93–103. doi: 10.4995/riai.2022.17106.	Precise irrigation, soil moisture model, drip irrigation, neural PI control

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Muñoz de la Peña, D., Domínguez, M., Gomez-Estern, F., Reinoso, Óscar, Torres, F. and Dormido, S. (2022) "State of the art of control education", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 117–131. doi: 10.4995/riai.2022.16989.	Control engineering curriculum, E-learning, distance learning and learning management systems, Experimental platforms, Automatic evaluation, Long-life learning, Teaching tools and laboratories, Interactive tools, virtual and remote laboratories, Teaching methodologies, Industry relations
Chacon, J., Goncalves, D., Besada, E. and López-Orozco, J. A. (2022) "A low-cost open-source remote laboratory for the educational robot arm Dobot Magician", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 124–136. doi: 10.4995/riai.2022.17477.	Robotics Education, Remote Laboratory, Robotic Arms, Robot Programming, EJS
<b>2023</b>	
Gómez-Bravo, F., López de Ahumada Gutierrez, R. and Jiménez-Naharro, R. (2023) "A teaching approach for the development of skills in programming manipulator robots", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 303–314. doi: 10.4995/riai.2023.18756.	robotic arms, robot programming, modelling and simulation, RoboDK, education in robotics
Chávez-Gudiño, M. A., Concha-Sánchez, A., Maciel-Barboza, F. M., Gadi, S. K., Thenozhi, S. . and Jiménez Betancourt, R. . (2023) "Development and control of a low cost 2 DOF laboratory helicopter", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 366–378. doi: 10.4995/riai.2023.18942.	2-DOF helicopter, real-time control, parameter estimation, open-source software, low-cost technology

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Vallejo, P. M. and Vega, P. (2022) "Integration of the FMBPC strategy in a Closed-Loop Predictive Control structure. Application to the control of activated sludge", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 13–26. doi: 10.4995/riai.2021.15793.	Model-based predictive control, Fuzzy control and fuzzy systems in control, Intelligent control techniques, Control of systems with restrictions, Multivariable control, Automatic control of water treatment systems
González Hernández, J., Rodríguez Miranda, E., Guzmán Sánchez, J. L., Acién Fernández, F. G. and Visioli, A. (2022) "Temperature optimization in microalgae raceway reactors by depth regulation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 164–173. doi: 10.4995/riai.2022.16586.	Microalgae, Open reactors, Temperature optimization, Control
Garrido Satué, M., Castaño Castaño, F., Ortega Linares, M. G. and Rodríguez Rubio, F. (2022) "Pointing performance evaluation of control strategies for high concentration photovoltaic sun trackers", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 174–185. doi: 10.4995/riai.2022.16905.	Control of renewable energy resources, Modeling, Tracking, Energy systems, Identification and control methods
da Cunha e Silva, L. C. and Andrade Romero, J. F. (2022) "Hybrid methodology for filling level estimation in ball mill", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 210–220. doi: 10.4995/riai.2021.13064.	System identification and parameter estimation, mining, hybrid systems modeling, monitoring and supervision
Ramos-Teodoro, J. and Rodríguez, F. (2022) "Distributed energy production, control and management: a review of terminology and common approaches", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 233–253. doi: 10.4995/riai.2022.16497.	Microgrids, virtual power plants, energy hubs, multi-energy systems, distributed multi-generation, economic dispatch, energy management, Model-based predictive control, control and scheduling
Hoyo Sánchez, Ángeles, Guzmán Sánchez, J. L., Moreno Úbeda, J. C. and Baños Torrico, A. (2022) "Robust control of pH in a raceway photobiorreactor", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 274–283. doi: 10.4995/riai.2022.16731.	Robust control, QFT, Raceway, Fotobioreactors, Microalge
Cevallos, D., Martín, C. A., El Mistiri, M., Rivera, D. E. and Hekler, E. (2022) "A decision framework for an adaptive behavioral intervention for physical activity using hybrid model predictive control: illustration with Just Walk", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 297–308. doi: 10.4995/riai.2022.16798.	Model predictive control of hybrid systems, control of physiological and clinical variables, system identification
Gallego Len, A. J. ., Sánchez del Pozo, A. J. . and F. Camacho, E. (2022) "Application of model predictive control to parabolic trough thermal solar plants", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 309–317. doi: 10.4995/riai.2022.16664.	Automatic Control, Solar Energy, Predictive Controller, Parabolic-trough, Optimization
Peccin, V. B., Lima, D. M., Flesch, R. C. C. . and Normey-Rico, J. E. (2022) "Fast constrained dynamic matrix control algorithm with online optimization", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 330–342. doi: 10.4995/riai.2022.16619.	Model Predictive Control, Optimization, Fast Processes, FPGA, Automotive systems
<b>2023</b>	
Calle Chojeda, E., Oliden Semino, J. and Ipanaqué Alama, W. (2023) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 32–43. doi: 10.4995/riai.2022.17375.	model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system

<p>Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) "Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation", <i>Revista Iberoamericana de Automática e Informática industrial</i>, 20(1), pp. 44–55. doi: 10.4995/riai.2022.16517.</p>	<p>PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation</p>
<p>Liu, R., Guzmán, J. L., García-Mañas, F. and Li, M. (2022) "Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach", <i>Revista Iberoamericana de Automática e Informática industrial</i>, 20(2), pp. 150–161. doi: 10.4995/riai.2022.18119.</p>	<p>Selective control, PI control, Event-based control, Agriculture, Greenhouses</p>
<p>Caparroz, M., Otálora, P., Guzmán, J. L., Berenguel, M. and Acién, F. G. (2023) "Modeling and adaptive control of pH in raceway reactors for microalgae production", <i>Revista Iberoamericana de Automática e Informática industrial</i>. 20(4), pp. 379–388. doi: 10.4995/riai.2023.19103.</p>	<p>Microalgae, Modeling, Open reactor, Adaptive control</p>
<p>Sanz Bermejo, F. J., Ramirez-Laboreo, Édgar and Sagues, C. . (2023) "Structural identifiability analysis of a heat transfer system", <i>Revista Iberoamericana de Automática e Informática industrial</i>. 20(4), pp. 412–420, doi: 10.4995/riai.2023.19170.</p>	<p>Structural Identifiability, Grey-box thermal modeling, Lumped-parameter modeling, Recursive identification</p>
<p><b>En prensa</b></p>	
<p>Sánchez-Sánchez, P., Cebada-Reyes, J. G., Montiel-Martínez, A. and Reyes-Cortés, J. F. (2023) "Implementation of Model Reference Adaptive Control in a Dehydration System", <i>Revista Iberoamericana de Automática e Informática industrial</i>. doi: 10.4995/riai.2023.19172.</p>	<p>Adaptive control, MRAC method, reference signal, thermal system, dehydrator, Lyapunov theory, performance index</p>

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Vázquez, U., González-Sierra, J., Fernández-Anaya, G. and Hernández-Martínez, E. G. (2022) "Performance analysis of a PID fractional order control in a differential mobile robot", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 74–83. doi: 10.4995/riai.2021.15036.	Fractional control, Differential-drive robot, Tracking control, PID Control
Sánchez, R., Sierra-García, J. E. and Santos, M. (2022) "Modelling of a hybrid differential-tricycle AGV", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 84–95. doi: 10.4995/riai.2021.14622.	Modelling and simulation, AGV, Tricycle, Differential, Dynamic model, Kinematics, Autonomous Robots
López, M. G., Artega, M. A., Gutiérrez, A. I. and Nuño, E. (2022) "Experimental results on the control of a robot bilateral teleoperation system with time varying delays", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 96–107. doi: 10.4995/riai.2021.14834.	Bilateral teleoperators, observer design, time varying delays, delayed kinematic correspondence
Munoz-Ceballos, N. D. and Suarez-Rivera, G. (2022) "Performance criteria for evaluating mobile robot navigation algorithms: a review", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 132–143. doi: 10.4995/riai.2022.16427.	Mobile robot, control system, trajectory tracking, performance index, energy, navigation algorithm
Javier, Uzal, L. and Pire, T. (2022) "WGANVO: monocular visual odometry based on generative adversarial networks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 144–153. doi: 10.4995/riai.2022.16113.	Localization, Neural networks, Mobile robots
Díaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2022) "Eye-to-hand calibration of an industrial robotic arm with structured light 3D cameras", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 154–163. doi: 10.4995/riai.2021.16054.	Hand-eye calibration, Industrial robotics, Computer vision applied to robotics, Autonomous robotic systems
Rodríguez-Cortés, H. (2022) "Mexican researchers contributions to unmanned aerial vehicles control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 430–441. doi: 10.4995/riai.2022.16870.	Unmanned Aerial Vehicles, Energy based control, Real Time
<b>2023</b>	
Mora, J. P., Samper, J. and Carlos F. (2023) "Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 1–12. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
García, J. M., Yáñez, P. and Martínez, J. E. (2023) "Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 13–24. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope negotiation
García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2022) "Improving the navigability of a mobile robot considering the energy consumption of its arm", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 115–123. doi: 10.4995/riai.2022.17806.	Energy consumption, Navigability, Skid steer robot, Slide-Down, Tip-over stability, Vehicle steerability
Chacon, J., Goncalves, D., Besada, E. and López-Orozco, J. A. (2022) "A low-cost open-source remote laboratory for the educational robot arm Dobot Magician", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 124–136. doi: 10.4995/riai.2022.17477.	Robotics Education, Remote Laboratory, Robotic Arms, Robot Programming, EJS
Castaño-Amorós, J., Páez-Ubieta, I. de L., Gil, P. and Puente, S. T. (2022) "Visual-tactile manipulation to collect household waste in outdoor", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 163–174. doi: 10.4995/riai.2022.18534.	Visual detection, Object recognition, Object location, Tactile perception, Robotic manipulation
Prados, C., Hernando, M., Gambao, E. and Brunete, A. (2022) "ROMERIN: A climbing robotic organism based on modular legs with active suction	Kinematics of robot for control, Model of robots and multi-



cups”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 175–186. doi: 10.4995/riai.2022.18749.	robot systems for control, Field, marine, submarine and aerial robotics
Santamaria, S., Zalama, E., Gómez, R., Muñoz, P. and Gómez-García-Bermejo, J. (2023) “Cable driven robot for cleaning facades”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 187–198. doi: 10.4995/riai.2023.18695.	Facades cleaning robot, cable driven robot, esp32, robot kinematics for control, mechatronic, trajectory planning and tracking
Carrasco Martínez, S., Gamboa Montero, J. J., Maroto Gómez, M., Alonso Martín, F. . and Salichs, M. Ángel (2023) “Applying psychological and social strategies to increase engagement in human-robot interaction”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 199–212. doi: 10.4995/riai.2023.18739.	High-level human-robot engagement, Psychological strategies, Human-robot interaction, Social robots, Interaction time, Pet robots
Godoy-Calvo, J., Lin-Yang, D., Vázquez-Martín, R. and García-Cerezo, A. (2023) “Dynamic entropy-based method for exploring frontiers in unknown environments”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 213–223. doi: 10.4995/riai.2023.18740.	mobile robotics, autonomous mobile robotics, robot navigation, entropy, information theory
Aginaga, J., García-Cuesta, I., Iriarte, X. and Plaza, A. (2023) “Maximum stiffness trajectories of a redundant robot acting as a support in thin-wall machining”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 259–268. doi: 10.4995/riai.2023.18977.	Industrial robotics, Redundant degree of freedom, Stiffness, Pose optimization, Performance index
Bilbao Moreno, D., Ferrer Uriarte, U., Viñals Abelan, J. J., Guerra Franco, G., Irigoyen Gordo, E. and Cabanes Axpe, I. (2023) “Self-coupling robotic system for the SIROM multifunctional interface”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 269–280. doi: 10.4995/riai.2023.19271.	Visual servoing control, position estimation, orientation estimation, adaptative control, force control, robotic manipulation, SIROM, robotic assembly
Continelli, N. A., Nagua Cuenca, L. F., Monje, C. A. and Balaguer, C. . (2023) “Modeling of a soft robotic neck using machine learning techniques”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 282–292. doi: 10.4995/riai.2023.18752.	Soft robotics, constant curvature (CC), machine learning, neural network, multilayer perceptron (MLP), activation function
Gómez-Bravo, F., López de Ahumada Gutierrez, R. and Jiménez-Naharro, R. (2023) “A teaching approach for the development of skills in programming manipulator robots”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 303–314. doi: 10.4995/riai.2023.18756.	robotic arms, robot programming, modelling and simulation, RoboDK, education in robotics
Yime, E., Saltarén, R. J. and Roldán Mckinley, J. A. (2023) “Inverse dynamics of parallel robots: A tutorial with Lie algebra”, <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(4), pp. 327–346. doi: 10.4995/riai.2023.18356.	Parallel Robots, Dynamic Modelling, Multibody Dynamics, Five Bar Mechanisms, Planar 3-RRR Robot
González-Morgado, A., Álvarez-Cía, C., Heredia Benot, G. and Ollero Baturone, A. . (2023) “UAV Fully-Actuated: model, control and comparison with coplanar configuration”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 401–411, doi: 10.4995/riai.2023.19348.	UAVs, Aerial Robotics, Robotics, Modeling
<b>En prensa</b>	
Álvarez-Pastor, J., Martínez-Pascual, D., Blanco, A., Catalán, J. M., García-Aracil, N. and López-Labrador, F. (2023) “Configuration design of wearable robotic arms used in installation and maintenance tasks”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.18746.	supernumerary robot, robots manipulators, robots design, robots kinematics, assistive robotics
Montenegro-Bravo, J. S., Ruiz-Flórez, J. D. ., Romero-Ante, J. D. ., Manrique-Córdoba, J. ., Vivas Albán, O. A. and Sabater-Navarro, J. M. (2023) “3D collision-free trajectory generator for a UR3e manipulator with soft gripper”, <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi:	Path-planning, soft grippers, ROS, collaborative robots, robotic manipulation, free collision path

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## Simulación y Optimización

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Hernández-Vázquez, J. O., Hernández-González, S., Hernández-Vázquez, J. I., Jiménez-García, J. A. and Hernández-Ripalda, M. D. (2022) "Multi-objective analysis of the buffer allocation problem with simulation meta-models and a hybrid metaheuristic", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 221–232. doi: 10.4995/riai.2021.15731.	Buffer allocation problem (BAP), meta-models, hybrid metaheuristic, optimization, production line
de Prada, C., Galán-Casado, S., Pitarch, J. L., Sarabia, D. ., Galán, A. . and Gutiérrez, G. (2022) "Digital twins for process industry", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 285–296. doi: 10.4995/riai.2022.16901.	Modelling and decision making in complex systems, Simulation, Real time optimization and control, Parameter and state estimation, Monitoring and performance assessment, Human operator support
<b>2023</b>	
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) "Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 44–55. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
Aguirre-Zapata, E., Garcia-Tirado, J., Morales, H., di Sciascio, F. and Amicarelli, A. N. (2023) "Methodology for modeling and parameter estimation of the growth process of <i>Lobesia botrana</i> ", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 68–79. doi: 10.4995/riai.2022.17746.	Modeling and identification of biological systems, Parameter estimation, Gray box modeling, <i>Lobesia botrana</i> , Nonlinear least-squares, Structural identifiability
Morales, H., Aguirre-Zapata, E., di Sciascio, F. and Amicarelli, A. N. (2023) "Control strategies with variable Setpoint applied to the C Crystallization process in the sugar industry", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 81–92. doi: 10.4995/riai.2022.17096.	Supersaturation, Crystallization Processes, Control strategy with variable Setpoint, Mass of Crystals

## Sistemas de Control en Red

En prensa	
Paper	Original keywords
Anzola Anzola, J. P., Simanca Herrera, F. A. and García-Díaz, V. (2023) "Jitter impact in a multi-agent formation control", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19440.	Automatic control of formations, multi-agent systems, Jitter, delay, simulation environment

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Ochoa Sosa, J. E., Rubén, Oggier, G. E., Oggier, G. G. and Guillermo (2022) "Fault-Tolerant Scheme of Load-Side Transistors Applied to Three-Phase Dual Active Bridge DC-DC Converters", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 186–198. doi: 10.4995/riai.2022.15408.	Three-Phase Dual Active Bridges Converter, power electronics systems, modeling and simulation, detection and diagnosis
Beristáin, J. A. and Pérez, J. (2022) "Bidirectional three-phase DC-AC converter with high frequency isolation: modeling using switching functions", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 199–209. doi: 10.4995/riai.2022.14936.	High-frequency-link isolation, switching functions, modelling, bidirectional power flow
Castro, L., Bueno-López, M. and Juan (2022) "Strategy for the implementation of hierarchical control in microgrids", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 254–264. doi: 10.4995/riai.2022.15741.	Microgrid, Voltage Source Converter, Fuzzy Control, Hierarchical control
Espinosa-Pérez, G. (2022) "Control of electric power microgrids: a hamiltonian approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control
<b>2023</b>	
G. Satué, M., R. Arahál, M. and R. Ramírez, D. (2023) "Rotor Current Estimation in Predictive Control of Multi-phase Drives", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 25–31. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation
Rodríguez, F., Garrido, D. O., Núñez, R. O., German G. and Guillermo O. (2023) "Feedback Linearization Control of a Dual Active Bridge Converter Feeding a Constant Power Load", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(3), pp. 237–246. doi: 10.4995/riai.2023.18546.	Dual active bridge converter, Power electronics, Nonlinear control, Feedback linearization, Constant power load
Garrido Satué, M., Ruiz Arahál, M., Rodríguez Ramírez, D. and Barrero García, F. (2023) "Multi-phase predictive control using two Virtual-Voltage-Vector constellations", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(4), pp. 347--354. doi: 10.4995/riai.2023.19205.	Induction machines, Multi-phase systems, Performance maps, Predictive control, Virtual-Voltage-Vectors

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Maestre, J. M., Chanfreut, P., García Martín, J., Masero, E., Inoue, M. y F. Camacho, E. (2022). "Predictive Control of Cyber-Physical Systems". <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 1–12. doi: 10.4995/riai.2021.15771.	Model predictive control, robots and multi-robot systems control, cyber-physical systems control, human-machine interaction in automatic control systems, coalitional control
Barahona-Avalos, J. L., Juárez-Abad, J. A., Galván-Cruz, G. S. and Linares-Flores, J. (2022) "Active disturbance rejection control of temperature of thermoelectric module", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 48–60. doi: 10.4995/riai.2021.14728.	Thermoelectric module, active disturbance rejection, GPI observer
Guerrero-Castellanos, J. F. and González-Romeo, L. L. (2022) "Position control system via active disturbance rejection for laser optical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 61–73. doi: 10.4995/riai.2021.14852.	Laser beam stabilization system, active disturbance rejection control, linear extended state observer, input-to-state stability (ISS)
Castillo, A., Garcia, P. and Albertos, P. (2022) "Disturbance Observer-Based Controllers: operating principles and design strategies", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 343–355. doi: 10.4995/riai.2022.16856.	Disturbance Observer-Based Controllers, Robust Control, Uncertain Systems, MIMO Systems, Optimal Control, LQR
Mondié, S. and Gomez, M.-A. (2022) "Linear time-delay systems: the complete type functionals approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 381–393. doi: 10.4995/riai.2022.16828.	Time-delay systems, Stability analysis, Linear systems, Controller design
Moreno, J. A. and Fridman, L. (2022) "Lyapunov-based HOSM control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 394–406. doi: 10.4995/riai.2022.17013.	Sliding Modes, Variable Structure Control, Lyapunov Methods, Integral Control, Nonlinear Observers
Sandoval, J., Kelly, R. and Santibáñez, V. (2022) "On the energy shaping plus damping injection control of mechanical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 407–418. doi: 10.4995/riai.2022.16862.	Energy control, Lyapunov stability, Robot control, Mechanical systems
Castaños, F. (2022) "Multi-valued control of port-Hamiltonian systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 419–429. doi: 10.4995/riai.2022.16814.	Passivity-based control, Lagrangian and Hamiltonian systems, differential inclusions, robust controller synthesis, controller constraints and structure
<b>2023</b>	
Anderson, J. L., Moré, J. J., Puleston, P. F., Roda, V. and Costa-Castelló, R. (2023) "Super-Twisting control with zero crossing gain adaptation. Stability analysis and validation", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.17214.	Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems
Acosta Cano de los Ríos, P., Robledo-Vega, I., Rodríguez-Mata, A. E. and Baray-Arana, R. (2023) "Sliding mode surface coefficients directly in the control magnitude, a reduced effort approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 355-365. doi: 10.4995/riai.2023.17980.	Sliding mode control, Control effort, Chain of integrators, Perturbation rejection, Chattering
Sanz Bermejo, F. J., Ramirez-Laboreo, Édgar and Sagues, C. (2023) "Structural identifiability analysis of a heat transfer system", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 20(4), pp. 412–420, doi: 10.4995/riai.2023.19170.	Structural Identifiability, Grey-box thermal modeling, Lumped-parameter modeling, Recursive identification

<b>2022</b>	
<b>Paper</b>	<b>Original keywords</b>
Balbastre, P., Aceituno, J. M., Guasque, A., Blanes, J. F., Crespo, A. and Poza, J. L. (2022) "Scheduling of hard real-time systems using non-conventional techniques", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 369–379. doi: 10.4995/riai.2022.17148.	Real-time control systems, Control system scheduling, cyber physical systems, Embedded control systems
<b>2023</b>	
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2023) "Modular distributed architecture for intelligent traffic control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 56–67. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
Belman-López, C. E., Jiménez-García, J. A., Vázquez-Lopez, J. A. and Camarillo-Gómez, K. A. (2022) "Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 137–149. doi: 10.4995/riai.2022.17791.	Industry 4.0, system architecture, cloud computing, data analysis, applications development
<b>En prensa</b>	
Anzola Anzola, J. P., Simanca Herrera, F. A. and García-Díaz, V. (2023) "Jitter impact in a multi-agent formation control", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19440.	Automatic control of formations, multi-agent systems, Jitter, delay, simulation environment
Aceituno, J. M., Guasque, A., Balbastre Betoret, P., Simó, J., Pereira, C. E. and Crespo, A. (2023) "Scheduling techniques for optimising the performance of multicore real-time systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2023.19935.	Real-time control systems, Real-time scheduling, cyber physical systems, Embedded control systems, Multicore systems, Contention, Neural networks

## Visión por Computador/ Tratamiento de Señales

2023	
Paper	Original keywords
Castaño-Amorós, J., Páez-Ubieta, I. de L., Gil, P. and Puente, S. T. (2022) "Visual-tactile manipulation to collect household waste in outdoor", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(2), pp. 163–174. doi: 10.4995/riai.2022.18534.	Visual detection, Object recognition, Object location, Tactile perception, Robotic manipulation