

Lucio R. Salinas

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Research Interests

Robotics, teleoperation, automation, human-robot interaction, uncrewed vehicles, multi-agent systems, swarm robotics, digital twinning, system modelling and simulation, software development.

Present Positions

Independent Researcher

Argentina

National Scientific and Technical Research Council (CONICET)

2026–

- Workplace: Instituto de Automática (INAUT) - National University of San Juan (UNSJ)
- Main research topic: **Teleoperation and control of uncrewed vehicles**
- Research areas: Development and implementation of control, teleoperation and autonomous navigation algorithms for mobile robots; design of human-robot interfaces; development of digital environments

Assistant Professor (Lecturer)

National University of San Juan - Faculty of Engineering

2026–

- Instituto de Automática - Department of Electronics and Automation
- Modules: **Computer Science I / Computer Science II**

Instructor – Practical and Laboratory Teaching

National University of San Juan - Faculty of Engineering

2024–

- Instituto de Automática - Department of Electronics and Automation
- Module: **Analog Electronics**

Education

PhD in Control Systems Engineering

Argentina

National University of San Juan

2013

- Dissertation: “**Teleoperation of uncrewed aerial vehicles**”
- Supervisors: Vicente A. Mut & Emanuel Slawiński

Electronic Engineering

National University of San Juan

2008

- Final project: “Software framework for mobile robot control algorithms”

Awards

Extraordinary Postdoctoral Fellowship

Argentina

National Scientific and Technical Research Council

2016

Postdoctoral Fellowship

National Scientific and Technical Research Council

2013–2015

PhD Fellowships

National Scientific and Technical Research Council, Type I and II

2008–2013

Research Scholarship

National University of San Juan, Internal research grant - Advanced student

2006–2007

Teaching Experience

- Instructor – Practical and Laboratory Teaching** **Argentina**
National University of San Juan - Faculty of Engineering 2024–2026
○ Department of Electronics and Automation
○ Modules: **Identification, Simulation and Optimization / Signals and Systems**
- Instructor – Practical and Laboratory Teaching** _____
National University of San Juan - Faculty of Engineering 2017–2021
○ Department of Electronics and Automation - Module: **Instrumentation and Control**
○ PhD and MSc in Control Systems Engineering - Modules: **Robot Control / Aerial Robots Control**
- Instructor – Practical and Laboratory Teaching** _____
National University of San Juan - Faculty of Engineering 2014–2015
○ Department of Electronics and Automation
○ Module: **Vision Systems**
- Undergraduate Teaching Assistant** _____
National University of San Juan - Faculty of Engineering 2003–2008
○ Department of Mathematics
○ Modules: **Mathematical Analysis II / Applied Mathematics**
- Undergraduate Teaching Assistant** _____
National University of San Juan - Faculty of Engineering 2005–2006
○ Department of Electronics and Automation
○ Modules: **Control II / Digital Control II**

Research Experience

Positions.....

- Research Associate** **UK**
University of Bristol - School of Engineering Mathematics and Technology 2021–2024
○ Workplace: Department of Engineering Mathematics - Bristol Robotics Laboratory
○ Digital Twinning for Aerial Swarm Robotics: Design and build a digital twin of an aerial swarm for forest fire monitoring and mitigation, aid delivery and Antarctic environmental research
- Associate Researcher** **Argentina**
National Scientific and Technical Research Council (CONICET) 2019–2026
○ Workplace: Instituto de Automática - UNSJ
○ Main research topic: **Teleoperation and control of uncrewed vehicles**
- Assistant Researcher** _____
National Scientific and Technical Research Council 2016–2019
○ Workplace: Instituto de Automática - UNSJ
○ Main research topic: **Teleoperation and control of uncrewed aerial vehicles**
- Postdoctoral Fellow** **Chile**
Federico Santa María Technical University (UTFSM) 2015–2016
Advanced Center for Electrical and Electronic Engineering (AC3E)
Research areas: autonomous machinery for industrial processes (agriculture and mining), exteroceptive sensors processing, control systems, navigation strategies, human-robot interaction.
- Postdoctoral Fellow** **Argentina**
National Scientific and Technical Research Council - UNSJ, Instituto de Automática 2013–2015, 2016
Research areas: teleoperation and control of aerial and ground mobile robots, human-robot interaction, user interface design, software development.

Stays.....

Teleoperation of uncrewed aerial vehicles **Brazil**
Universidade Federal do Espírito Santo (UFES) **2013**

Institutions: IES/Brazil, UFES and IES/Argentina, INAUT - UNSJ

Location: Laboratorio de Automação Inteligente, Centro Tecnológico, UFES

Teleoperation of mini-helicopters **2010**
Universidade Federal do Espírito Santo (UFES)

Institutions: IES/Brazil, UFES and IES/Argentina, INAUT - UNSJ

Location: Laboratorio de Automação Inteligente, Centro Tecnológico, UFES

Projects.....

International R+D projects (2) **UK**

- Title: "Protecting environments with UAV swarms"

Role: **Researcher**

Funded by: UK Research & Innovation (Innovate UK, Future Flight Challenge - Phase 3)

Funded value: £5.863.677 (≈ USD\$7.500.000) - Date: 01/07/2022 - 30/06/2024

Info: <https://gtr.ukri.org/projects?ref=10023377>, <https://research-information.bris.ac.uk/en/projects/protecting-environments-with-uav-swarms>

Showcase video: <https://youtu.be/9kNdFRetV4w>

- Title: "Swarm technology and digital twinning to enable coordination and utilisation of high numbers of 100kg payload UAVs in aid delivery and firefighting applications"

Role: **Researcher**

Funded by: UK Research & Innovation (Innovate UK, Future Flight Challenge - Phase 2)

Funded value: £391.781 (≈ USD\$500.000) - Date: 01/12/2020 - 31/08/2022

Info: <https://gtr.ukri.org/projects?ref=75392>, <https://research-information.bris.ac.uk/en/projects/swarm-technology-and-digital-twinning-to-enable-coordination-and->

Showcase video: <https://youtu.be/s1wBOAW2mhg>

National R+D projects (13) **Argentina**

- Title: "Control of an aerial manipulator for dam inspection"

Role: **Principal Investigator**

Funded by: Secretariat of Science, Technology and Innovation (SECITI) and UNSJ, PDTS/2019

Date: 2020–2022

- Participated as a **Researcher** in **12 projects** funded by different entities: Ministry of Defense (MINDEF); Ministry of Science, Technology and Productive Innovation (MINCyT); National Council for Scientific and Technical Research (CONICET); National Agency for the Promotion of Research, Technological Development and Innovation (AGENCIA); SECITI and UNSJ.

- Title: "Development of a prototype robotic system for remote manipulation of explosives, dangerous substances and devices"

Date: 2017–2020 - Funded by: MINDEF, PIDDEF N°35/2016

Showcase video: <https://youtu.be/QEgu0GTS06M>

- Title: "Advanced robot control in intensive agriculture"

Date: 2016–2019 - Funded by: AGENCIA, PICT-2014-165

- Title: "AGRICULTURAL TELEMETRY, a technological tool for efficient irrigation management, crop supervision, and generation of alerts"

Date: 2016–2018 - Funded by: CONICET-SECITI, PIO 84 - PCTI 312

- Title: "Robot control strategies for agro-industrial production and service systems"

Date: 2016–2018 - Funded by: CONICET, PIP15 N°11220150100

- Title: "Data capture, integration and visualization system for crop guidance and efficient irrigation management"

- Date: 2015–2017 - Funded by: SECITI, PCTI 290
- Title: “Shared control of human-machine systems”
- Date: 2014–2015 - Funded by: UNSJ, 018/14–CS
- Title: “Supervision and control of robots in production processes”
- Date: 2013–2015 - Funded by: CONICET, PIP N°112 20110100223
- Title: “Advanced servo-visual control and teleoperation of mobile robots in the context of production systems”
- Date: 2011–2013 - Funded by: AGENCIA-UNSJ, PICTO-2009-0107
- Title: “Control and interface of human-machine systems”
- Date: 2011–2013 - Funded by: UNSJ, I 953
- Title: “Advanced servo-visual control of mobile robots in the context of production systems”
- Date: 2011–2013 - Funded by: UNSJ, I 957
- Title: “Advanced robotics for production systems”
- Date: 2009–2011 - Funded by: AGENCIA, PICT-2007-00513
- Title: “Advanced robot control systems in applications to the productive sector”
- Date: 2009–2011 - Funded by: CONICET, PIP N°1404

Technology Transfer & Development.....

UAV swarm digital twin system II

UK

University of Bristol, Windracers

2024

- Digital Twin of a multi-UAV system (ULTRA platform, <https://windracers.com/drones/>)
- Project type: Research Translation
- Adopting Institution: Windracers (<https://windracers.com/>)
- Role: Researcher & Developer
- Demo Video: <https://youtu.be/paPoDEDVauM>

UAV swarm digital twin system I

University of Bristol, Distributed Avionics

2022

- Digital Twin of a multi-UAV system (Believer UAV platform)
- Project type: Research Translation
- Adopting Institution: Distributed Avionics (<https://windracers.com/distributed-avionics/>)
- Role: Researcher & Developer
- Demo Video: <https://youtu.be/t1m7ucuwEmM>

RAT20 Argentine Teleoperated Robot

Argentina

Instituto de Automática (CONICET-UNSJ), Ministry of Defense

2020

- Development of a prototype teleoperation system for a mobile dual-arm manipulator robot (RAT20)
- Project type: Technological development and innovation
- Evaluating Institution: Ministry of Defense
- Role: Researcher & Developer
- Demo video: <https://youtu.be/QEgu0GTS06M>

Awards and Honors.....

INNOVAR 2022 National Innovation Competition

Argentina

“RAT Argentine Teleoperated Robot”, Instituto de Automática (CONICET-UNSJ)

2022

Official announcement: <https://www.argentina.gob.ar/>

- Award-winning project in the “Robotics/Artificial Intelligence” category
- Recognition from the National Institute of Industrial Technology (INTI)

Publications

Book (1)

- **Lucio R. Salinas**, "Teleoperación de vehículos aéreos no tripulados". Tesis Doctoral, Universidad Nacional de San Juan, **2014**. ISBN: 978-987-33-4240-0

Peer-Reviewed Journal Articles (22)

1: - F.A. Chicaiza, E. Slawiński, **L.R. Salinas**, V.A. Mut, "Mapping for stable bilateral teleoperation of manipulators considering time delays". *International Journal of Systems Science*, **2024**, vol. 55(11), p. 2306-2324, <https://doi.org/10.1080/00207721.2024.2343737>, SClmago **Q1**

2: - D. Santiago, E. Slawiński, **L. R. Salinas**, V.A. Mut, "Force and position coordination for delayed bilateral teleoperation of a manipulator robot". *International Journal of Dynamics and Control*, **2024**, vol. 12(6), p. 1679-1693, <https://doi.org/10.1007/s40435-023-01298-z>, SClmago **Q2**

3: - **L.R. Salinas**, J. Gimenez, D.C. Gandolfo, C.D. Rosales, R. Carelli, "Unified Motion Control for Multilift Unmanned Rotorcraft Systems in Forward Flight". *IEEE Transactions on Control Systems Technology*, **2023**, vol. 31(4), p. 1607-1621, <https://doi.org/10.1109/TCST.2023.3240541>, SClmago **Q1**

4: - G. Tzoumas, L. Pitonakova, **L.R. Salinas**, C. Scales, T. Richardson, S. Hauert, "Wildfire detection in large scale environments using force based control for swarms of UAVs". *Swarm Intelligence*, **2023**, vol. 17(1), p. 89-115, <https://doi.org/10.1007/s11721-022-00218-9>, SClmago **Q2**

5: - F.A. Chicaiza, E. Slawiński, **L.R. Salinas**, V.A. Mut, "Evaluation of path planning with force feedback for bilateral teleoperation of unmanned rotorcraft systems". *Journal of Intelligent & Robotic Systems*, **2022**, vol. 105(2), p. 34, <https://doi.org/10.1007/s10846-022-01651-y>, SClmago **Q1**

6: - D.C. Gandolfo, C.D. Rosales, **L.R. Salinas**, J. Gimenez, R. Carelli, "Low-cost Position and Force Measurement System for Payload Transport Using UAVs". *International Journal of Automation and Computing*, **2021**, vol. 18(4), p. 594-604, <https://doi.org/10.1007/s11633-021-1281-4>, SClmago **Q1**

7: - J. Gimenez, **L.R. Salinas**, D.C. Gandolfo, C.D. Rosales, R. Carelli, "Control for cooperative transport of a bar-shaped payload with rotorcraft UAVs including a landing stage on mobile robots". *International Journal of Systems Science*, **2020**, vol. 51(16), p. 3378-3392, <https://doi.org/10.1080/00207721.2020.1815096>, SClmago **Q1**

8: - F. Rossomando, C.D. Rosales, J. Gimenez, **L.R. Salinas**, C. Soria, M. Sarcinelli-Filho, R. Carelli, "Aerial load transportation with multiple quadrotors based on a kinematic controller and a neural SMC dynamic compensation". *Journal of Intelligent & Robotic Systems*, **2020**, vol. 100, p. 519-530, <https://doi.org/10.1007/s10846-020-01195-z>, SClmago **Q1**

9: - **L. R. Salinas**, D. Santiago, E. Slawiński, V.A. Mut, D. Chavez, P. Leica, O. Camacho, "P+d plus sliding mode control for bilateral teleoperation of a mobile robot". *International Journal of Control, Automation and Systems*, **2018**, vol. 16(4), p. 1927-1937, <https://doi.org/10.1007/s12555-017-0439-x>, SClmago **Q2**

10: - J. Gimenez, D.C. Gandolfo, **L. R. Salinas**, C.D. Rosales, R. Carelli, "Multi-objective control for cooperative payload transport with rotorcraft UAVs". *ISA transactions*, **2018**, vol. 80, p. 491-502, <https://doi.org/10.1016/j.isatra.2018.05.022>, SClmago **Q1**

11: - J. Gimenez, S. Tosetti, **L.R. Salinas**, R. Carelli, "Bounded memory probabilistic mapping of out-of-structure objects in fruit crops environments". *Computers and Electronics in Agriculture*, **2018**, vol. 151, p. 11-20, <https://doi.org/10.1016/j.compag.2018.05.018>, SClmago **Q1**

12: - D.C. Gandolfo, **L.R. Salinas**, M.E. Serrano, J.M. Toibero, "Energy evaluation of low-level control in UAVs powered by lithium polymer battery". *ISA transactions*, **2017**, vol. 71, p. 563-572, <https://doi.org/10.1016/j.isatra.2017.08.010>, SClmago **Q1**

13: - D.C. Gandolfo, **L.R. Salinas**, A. Brandão, J.M. Toibero, "Stable path-following control for a quadrotor helicopter considering energy consumption". *IEEE Transactions on Control Systems Technology*,

- 2017**, vol. 25(4), p. 1423-1430, <https://doi.org/10.1109/TCST.2016.2601288>, SClmago **Q1**
- 14:** - D. Gandolfo, **L.R. Salinas**, A. Brandão, J.M. Toibero, "Path Following for Unmanned Helicopter: An Approach on Energy Autonomy Improvement". *Information Technology and Control*, **2016**, vol. 45 (1), p. 86-98, <https://doi.org/10.5755/j01.itc.45.1.12413>, SClmago **Q2**
- 15:** - E. Slawiński, S. García, **L.R. Salinas**, V.A. Mut, "PD-like controller with impedance for delayed bilateral teleoperation of mobile robots". *Robotica*, Cambridge University Press, **2016**, vol. 34 (9), p. 2151-2161, <https://doi.org/10.1017/S0263574715000223>, SClmago **Q2**
- 16:** - **L.R. Salinas**, E. Slawiński, V.A. Mut, "Complete bilateral teleoperation system for a rotorcraft UAV with time-varying delay". *Mathematical Problems in Engineering*, **2015**, 305314, <https://doi.org/10.1155/2015/305314>, SClmago **Q2**
- 17:** - F. Penizzotto, E. Slawiński, **L.R. Salinas**, V.A. Mut, "Human-centered control scheme for delayed bilateral teleoperation of mobile robots". *Advanced Robotics*, **2015**, vol. 29 (19), p. 1253-1268, <https://doi.org/10.1080/01691864.2015.1052011>, SClmago **Q2**
- 18:** - V.H. Andaluz, F. Roberti, **L.R. Salinas**, J.M. Toibero, R. Carelli, "Passivity-based Visual Feedback Control with Dynamic Compensation of Mobile Manipulators: Stability and L2-Gain Performance Analysis". *Robotics and Autonomous Systems*, **2015**, vol. 66, p. 64-74, <https://doi.org/10.1016/j.robot.2014.12.009>, SClmago **Q1**
- 19:** - **L.R. Salinas**, E. Slawiński, V.A. Mut, "Kinematic Nonlinear Controller for a Miniature Helicopter via Lyapunov Techniques". *Asian Journal of Control*, **2014**, vol. 16, p. 856-870, <https://doi.org/10.1002/asjc.754>, SClmago **Q2**
- 20:** - E. Slawiński, V.A. Mut, P. Fiorini, **L.R. Salinas**, "Quantitative Absolute Transparency for Bilateral Teleoperation of Mobile Robots". *IEEE Transactions on Systems, Man, and Cybernetics–Part A: Systems and Humans*, **2012**, vol. 42, p. 430-442, <https://doi.org/10.1109/TSMCA.2011.2159588>. Este journal dejó de publicarse en 2012 (ver historial en IEEE), la publicación actual con el nuevo título es *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, SClmago **Q1**
- 21:** - E. Slawiński, V.A. Mut, **L.R. Salinas**, S. García, "Teleoperation of a Mobile Robot with Time-Varying Delay and Force Feedback". *Robotica*, Cambridge University Press, **2012**, vol. 30, p. 67-77, <https://doi.org/10.1017/S0263574711000427>, SClmago **Q2**
- 22:** - V.H. Andaluz, R. Carelli, **L.R. Salinas**, F. Roberti, J.M. Toibero, "Visual Control with Adaptive Dynamical Compensation for 3D Target Tracking by Mobile Manipulators". *Mechatronics*, **2012**, vol. 22, p. 491-502, <https://doi.org/10.1016/j.mechatronics.2011.09.013>, SClmago **Q1**

Book chapter (1)

- **Lucio R. Salinas**, E. Slawiński, V.A. Mut, José María Sebastián, "Teleoperation and control of mini-helicopters: A case study". *Robots de Exteriores*, **2010**. Madrid, Centro de Automática y Robótica CSIC-UPM, ISBN: 978-84-614-5558-4

International Conferences and Workshops (12)

- 1:** - **L.R. Salinas**, G. Tzoumas, S. Hauert, "Scalable real-time multi-UAV coverage path planning for large geographical areas". *International Conference on Advanced Robotics (ICAR)*, **2025**, San Juan, Argentina
- 2:** - G. Tzoumas, **L.R. Salinas**, A. McConville, T. Richardson, S. Hauert, "Extinguishing Wildfires in Large Scale Scenarios Using Swarms of UAVs". *International Conference on Swarm Intelligence (ANTS)*, **2024**, p. 71-83, Konstanz, Germany
- 3:** - A. McConville, G. Tzoumas, **L.R. Salinas**, M. Munera, S. Hauert, "Adoption of UAV Swarm Technology: Survey and Opinions of Firefighters". *IEEE International Conference on Advanced Robotics and Its Social Impacts (ARSO)*, **2024**, p. 228-234, Hong Kong, China, <https://doi.org/10.1109/ARSO60199.2024.10557806>
- 4:** - G. Tzoumas, **L.R. Salinas**, A. McConville, T. Richardson, S. Hauert, "Use case design for swarms of

- firefighting UAVs via mutual shaping". *IEEE International Conference on Advanced Robotics and Its Social Impacts (ARSO)*, **2024**, p. 43-48, Hong Kong, China, <https://doi.org/10.1109/ARSO60199.2024.10558013>
- 5:** - **L.R. Salinas**, G. Tzoumas, L. Pitonakova, S. Hauert, "Digital twin technology for wildfire monitoring using UAV swarms". *International Conference on Unmanned Aircraft Systems (ICUAS)*, **2023**, Warsaw, Poland, <https://doi.org/10.1109/ICUAS57906.2023.10155819>
- 6:** - **L.R. Salinas**, G. Tzoumas, L. Pitonakova, S. Hauert, "Sim-to-real transfer of UAV swarms using digital twins". *IEEE International Conference on Robotics and Automation (ICRA)*, Workshop: "The Role of Robotics Simulators for Unmanned Aerial Vehicles", **2023**, London, UK, <https://imrclab.github.io/workshop-uav-sims-icra2023/>
- 7:** - **L.R. Salinas**, J. Gimenez, D.C. Gandolfo, C.D. Rosales, R. Carelli, "Energy-efficient control of multi-lift unmanned rotorcraft systems". *IEEE International Conference on Robotics and Automation (ICRA)*, Workshop: "Energy Efficient Aerial Robotic Systems", **2023**, London, UK, <https://aerial-robotics-workshop-icra2023.com/>
- 8:** - G. Tzoumas, **L.R. Salinas**, L. Pitonakova, A. Horlock, J. Waters, S. Hauert, "Developing digital twins of swarms of UAVs for wildfire monitoring". *Robotics: Science and Systems (RSS)*, Workshop: "Envisioning an Infrastructure for Multi-Robot and Collaborative Autonomy Testing and Evaluation", **2022**, New York, USA, <https://raaslab.org/rss2022/>
- 9:** - C.D. Rosales, F. Rossomando, **L.R. Salinas**, J. Gimenez, R. Carelli, "Unified control solution for mobile robot formations". *International Conference on Unmanned Aircraft Systems (ICUAS)*, **2021**, Athens, Greece, <https://doi.org/10.1109/ICUAS51884.2021.9476675>
- 10:** - **L.R. Salinas**, J. Gimenez, C.D. Rosales, D.C. Gandolfo, "Null-space-based path-following control for cooperative payload transport using multiple rotorcraft UAVs". *International Conference on Unmanned Aircraft Systems (ICUAS)*, **2018**, Dallas, TX, USA, <https://doi.org/10.1109/ICUAS.2018.8453373>
- 11:** - V.H. Andaluz, **L.R. Salinas**, F. Roberti, J.M. Toibero, R. Carelli, "Switching control signal for bilateral tele-operation of a mobile manipulator". *IEEE International Conference on Control & Automation (ICCA)*, **2011**, Santiago, Chile, <https://doi.org/10.1109/ICCA.2011.6138029>
- 12:** - A. Rosales, G. Scaglia, V.A. Mut, F. di Sciascio, **L.R. Salinas**, "A linear algebra based formation control for multi-robot systems". *XIII Congreso Latinoamericano de Control Automático (CLCA)*, **2008**, Mérida – Venezuela

National Conferences, Symposia, and Meetings (13).....

- 1:** - E. Slawiński, L. Slawiński, D. Santiago, **L.R. Salinas**, V.A. Mut, "RAT20 Teleoperated Argentine Robot". *XIX Reunión de Trabajo en Procesamiento de la Información y Control*, **2021**, San Juan, Argentina
- 2:** - F.A. Chicaiza, E. Slawiński, **L.R. Salinas**, V.A. Mut, "RRT con Retroalimentación de Fuerza para la Teleoperación Bilateral de UAVs: Evaluación de Estrategias". *XIX Reunión de Trabajo en Procesamiento de la Información y Control (RPIC)*, **2021**, San Juan, Argentina
- 3:** - D. Santiago, E. Slawiński, **L.R. Salinas**, V.A. Mut, "Teleoperación bilateral de robots manipuladores incluyendo coordinación dual de posición y fuerza". *XXVII Congreso Argentino de Control Automático (AADECA)*, **2020**, Bs. As., Argentina
- 4:** - D.C. Gandolfo, C.D. Rosales, **L.R. Salinas**, J. Gimenez, R. Carelli, "Sistema de medición de bajo costo para transporte de cargas utilizando UAVs". *X Jornadas Argentinas de Robótica (JAR)*, **2019**, Neuquén, Argentina
- 5:** - J. Gimenez, S. Tosetti, **L.R. Salinas**, R. Carelli, "Mapeo probabilístico en entorno agrícola vía estimadores de núcleos con submuestreo recursivo". *XVII Reunión de Trabajo en Procesamiento de la Información y Control (RPIC)*, **2017**, Mar del Plata, Argentina
- 6:** - J. Gimenez, D.C. Gandolfo, **L.R. Salinas**, C.D. Rosales, R. Carelli, "Control multi-objetivo para transporte cooperativo de cargas con UAVs". *IX Jornadas Argentinas de Robótica (JAR)*, **2017**, Córdoba,

Argentina

7: - J.C. Montesdeoca, **L.R. Salinas**, J.M. Toibero, R. Carelli, "Seguimiento de Trayectoria de un Robot Móvil Tipo Auto". *IX Jornadas Argentinas de Robótica (JAR)*, **2017**, Córdoba, Argentina

8: - **L.R. Salinas**, E. Slawiński, V.A. Mut, "Bilateral teleoperation of a rotorcraft UAV with time-varying delay". *XXIV Congreso Argentino de Control Automático (AADECA)*, **2014**, Bs. As., Argentina

9: - **L.R. Salinas**, E. Slawiński, V.A. Mut, "Teleoperación bilateral de vehículos aéreos no tripulados de alas giratorias". *XV Reunión de Trabajo en Procesamiento de la Información y Control (RPIC)*, **2013**, San Carlos de Bariloche, Río Negro, Argentina

10: - **L.R. Salinas**, E. Slawiński, V.A. Mut, "Teleoperación bilateral de UAV". *XXIII Congreso Argentino de Control Automático (AADECA)*, **2012**, Bs. As., Argentina

11: - V.H. Andaluz, **L.R. Salinas**, F. Roberti, J.M. Toibero, R. Carelli, "Bilateral tele-operation of a mobile manipulator robot". *XIV Reunión de Trabajo en Procesamiento de la Información y Control (RPIC)*, **2011**, Entre Ríos, Argentina

12: - **L.R. Salinas**, E. Slawiński, V.A. Mut, "'High-level nonlinear autopilot for a miniature helicopter via Lyapunov's technique". *VI Jornadas Argentinas de Robótica (JAR)*, **2010**, Bs. As., Argentina

13: - **L.R. Salinas**, S. Salinas de Vita, E. Slawiński, V.A. Mut, "Estructura de software en red para robots móviles". *XXI Congreso Argentino de Control Automático (AADECA)*, **2008**, Bs. As., Argentina

Supervision and Mentoring

PhD Dissertation.....

Bilateral Teleoperation of Mobile Dual-Arm Manipulators

Argentina

National University of San Juan, PhD in Control Systems Engineering

2019–2024

○ Role: **Co-supervisor**

○ Student: Eng. Fernando Chicaiza

○ Funding Institution: German Academic Exchange Service (DAAD) and CONICET

Master's Thesis.....

Teleoperation Interface for Aerial Transportation Systems and Multi-Drone Simulation Based on Unity Engine

UK

University of Bristol, MSc in Aerial Robotics

2023

○ Role: **Co-supervisor**

○ Student: BEng. Chenli Zhenghe

○ Award: Best Project Award

Undergraduate Final Projects.....

- **2010–present** – **Supervisor/Co-supervisor** of final projects for **22** students in the Electronic Engineering program at the National University of San Juan.

Evaluation and Review Activities

CONICET Scientific Researcher Career Admissions.....

- **2023** - **External Specialist** in the evaluation process for the call "Application for Admission to the Scientific Researcher Career 2022".

Scientific Research Projects.....

- **2016** - **Reviewer** of Scientific and Technological Research Projects (PICT) for the Agencia de Promoción Científica y Tecnológica - Fondo para la Investigación Científica y Tecnológica (FONCyT).

- **2014** - **Reviewer** of PICT Projects for the Agencia de Promoción Científica y Tecnológica - FONCyT.

Journal Manuscripts.....

- **2012 to present** - **Reviewer** for the following journals: Swarm Intelligence, IEEE Transactions on Industrial Informatics, IEEE Transactions on Industrial Electronics, IEEE/ASME Transactions on Mechatronics, IEEE Transactions on Systems, Man, and Cybernetics: Systems, International Journal of Robust and Nonlinear Control, Asian Journal of Control, Revista Iberoamericana de Automática e Informática.

Memberships

- **2013 to present** - Member of the following professional associations:

- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Robotics and Automation Society
- IEEE Control Systems Society (2013 - 2026)
- IEEE Systems, Man, and Cybernetics Society (2013 - 2026)

Languages

- **2021** - IELTS General Training Certificate, Band 7, in **English, CEFR level C1** (Advanced Level).

- **1994 - 1999** - Training in **English, Instituto Cambridge, average grade: 8.42**. Certificate issued by the Ministry of Education of the Province of San Juan.

Skills

	Level	Skill	Comment
Language:	■■■■■	C/C++	Robot programming, sensor reading and actuator control, e.g. robots (Pioneer/MobileRobots/Omron, Robotis, Cyton/Robai, 3D Robotics), cameras (Intel RealSense, ZED, Ricoh Theta 360, PTZ), LiDARs (Hokuyo, Sick, Livox and Slamtec), haptic device (Novint Falcon, CHAI3D); control algorithms, model simulation, GUI development (Dear ImGui), multithreading, ROS/ROS2
	■■■■■	C#	Mostly used in Unity (game engine) projects, interacting with other hardware/software using shared memory and DLLs, GUI development
	■■■■■	Python	VS Code, PyCharm, Data science and visualisation, GUI development, control algorithms, cartography, animations, ROS/ROS2
	■■■■■	Matlab/Simulink	Data science and visualisation, control algorithms, MEX files, S-functions, image processing, animations
OS:	■■■■■	Windows	Windows API, MFC, DLLs, XInput, Visual Studio IDE
	■■■■■	Linux	Ubuntu/Linux4Tegra, POSIX, ROS/ROS2, Gazebo simulator
Software:	■■■■■	Game Engines	Unity (intermediate), Unreal and Godot (basic), outdoor environments and user interfaces, virtual reality (Oculus Rift, Meta Quest), real-world photogrammetry (Cesium library), serious games
	■■■■■	Image/Video	OpenCV, Gstreamer, RTSP, FFmpeg, H.264/265 encode/decode (software and hardware, e.g. Intel, Nvidia and AMD GPUs), live stream on demand (RGB, 360 and depth cameras)
	■■■■■	Cloud	WebAPI, REST, SignalR, Docker, TCP/UDP sockets
	■■■■■	Git	GitHub, Bitbucket, GitLab, Git Bash, SourceTree
	■■■■■	Flight Sim	Ardupilot/PX4 SITL, X-Plane (plugins), FlightGear, Mission Planner, MAVProxy, QGroundControl, Gazebo (ROS/ROS2)
■■■■■	GUI	Dear ImGui (using OpenGL3 and GLSL shaders), QT (basic), MFC, Kivy, PySimpleGUI, CustomTkinter	