

Álvaro Romero-Calvo

Assistant Professor (tenure-track), Director of the [Low-Gravity Science and Technology Laboratory](#)
School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA 30332

☎ +1 (720) 473-2771

✉ alvaro.romerocalvo@gatech.edu

🌐 www.lowgravitylab.ae.gatech.edu

Last updated: November 13, 2022

EDUCATION

- May 2022 Ph.D., “Novel Electromagnetic Space Applications: Electron-Based Touchless Potential Sensing & Low-Gravity Magnetohydrodynamics”, Aerospace Engineering, University of Colorado Boulder (GPA 4.0, Advisor Dr. H. Schaub)
- August 2019 M.Sc., “Sloshing of magnetic liquids under low-gravity conditions”, Aeronautical & Space Engineering, Universidad de Sevilla / Politecnico di Milano (GPA 110/110, *Cum Laude*, Advisor Dr. F. Maggi)
- August 2016 B.Sc., “Development and testing of a quantitative heat flux estimation method for geographical surfaces. Application to the Urban Heat Island Effect”, Aerospace Engineering, Universidad de Sevilla (GPA 8.26/10, Advisor Dr. A.M. Gañán-Calvo)

WORK EXPERIENCE

8/2022 –
Present



Georgia Institute of Technology, School of Aerospace Engineering, Atlanta, Georgia
Assistant Professor (tenure-track)

Director of the [Low-Gravity Science and Technology Laboratory](#). Instructor of Space Systems Design (AE-4342) and several undergraduate research courses on propellant sloshing and microgravity research. Member of the Aerospace Engineering Seminar Committee.

8/2019 –
7/2022



University of Colorado, Aerospace Engineering Sciences Department, Boulder, Colorado
Graduate Research Assistant

Study of the analytical and numerical fundamentals of the new field of *low-gravity magnetohydrodynamics* with application to human and robotic spaceflight (magnetically enhanced electrolysis, magnetic positive positioning). Validation experiments conducted at Blue Origin's New Shepard after winning the ASGSR Ken Souza Spaceflight Research Award, and at ZARM's drop tower under the sponsorship of UNOOSA and ESA. Lead of international effort to expand this technology.

Numerical and experimental (vacuum chamber) development of novel secondary-electron-based touchless potential sensing methods for GEO spacecraft under AFOSR grant FA9550-20-1-0025. Enhancement and operation of the ECLIPS Space Environments Simulation Facility.

8/2020 –
3/2022



NASA Jet Propulsion Laboratory, Electrochemical Research, Technology, & Engineering Group, Pasadena, California
Visiting scholar (remote)

Development and testing of a technology flight demonstrator onboard Blue Origin's New Shepard designed to validate the concept of magnetically enhanced electrolysis.

8/2016 –
2/2018



Lynzos SL, Seville, Spain
Researcher & Developer

Analysis of heart rate variability patterns and development of novel methods for their quantification and classification.

8/2015 –
8/2016

Universidad de Sevilla, Seville, Spain
Spanish National Collaboration Grant - Internship

Development of a quantitative heat flux estimation method for geographical surfaces with applications to the study of the Urban Heat Island effect.

2/2016 –
5/2016

Airbus Defence & Space, Simulators Maintenance and Operation Department,
Seville, Spain
Airbus Seedbed Program - Internship

Analysis and improvement of system simulation discrepancies of the CN235, C295 and A400M full flight simulators.

PROJECTS AND GRANTS

1/2/21–
1/9/22

Title: ASGSR Ken Souza Spaceflight Research Program

PI: Álvaro Romero-Calvo

Sponsor: ASGSR, Blue Origin

Research: Design and development of a technological demonstrator on-board Blue Origin's New Shepard to validate the concept of magnetically enhanced electrolysis.

Funds: \$10,000 (est.)

1/3/19–
1/3/20

Title: UNOOSA DropTES Program 2019

PI: Álvaro Romero-Calvo

Sponsor: United Nations Office For Outer Space Affairs

Research: Study the axisymmetric and lateral free surface oscillations of a ferrofluid in microgravity.

Funds: \$10,000 (est.)

1/11/15–
1/1/17

Title: ESA Drop Your Thesis! 2017

PI: Álvaro Romero-Calvo

Sponsor: European Space Agency – Education Office

Research: Study the axisymmetric free surface oscillations of a ferrofluid in microgravity.

Funds: \$15,000 (est.)



HONORS AND AWARDS

Nov. 2022	Outstanding Dissertation Award, College of Engineering, University of Colorado Boulder
May 2022	Smead Aerospace Engineering Sciences Department Graduate Award for Research
Jan. 2022	GMAG travel award for American Physical Society March Meeting 2022
Sept. 2021	Travel award for ASGSR 2021 Meeting
April 2021	<i>Rafael del Pino</i> Excellence Fellowship 2021
Oct. 2020	Finalist of IAF Luigi G. Napolitano Award 2020
April 2019	Smead Aerospace Engineering Sciences Department Excellence Award
April 2019	University of Colorado Boulder Engineering School Dean's Fellowship
July 2018	<i>La Caixa</i> Fellowship Award for Postgraduate Studies 2018
July 2018	Fulbright Fellowship for Postgraduate Studies (declined for practical reasons)
July 2018	Travel award for 42 nd COSPAR Scientific Assembly
April 2018	ESA travel award for 2 nd Symposium on Space Educational Activities
Jan. 2018	Student European Low-Gravity Research Association Member of the Month
March 2017	Erasmus+ Double Master's Degree Fellowship
April 2016	Best project of the Airbus Seedbed Program in Business Skills

PROFESSIONAL SERVICE

Positions Held

Aug. 2022	AIAA Microgravity and Space Processes Technical Committee
Jul. 2022	COSPAR Scientific Commission G - Vice Chair
Nov. 2022	ASGSR Board Member
Nov. 2022	ASGSR Meeting 2022 - Chair of Education Session
Nov. 2021	ASGSR Student Chapter President
Nov. 2020	ASGSR Student Chapter President-Elect
Jan. 2018	SELGRA Expert in support of ESA <i>Drop Your Thesis!</i> 2018 Land3U team

External Reviewer Assignments

- AIAA SciTech 2023 (7 papers)
- ASGSR Meeting 2022 (Education Chair & reviewer, 17 paper submissions, 4 reviewed)
- ASGSR Meeting 2022 (10 papers reviewed for Enabling Technologies Session)
- Acta Mechanica et Automatica (2 papers)
- Journal of Applied and Computational Mechanics (2 papers)
- Advances in Space Research (1 paper)
- Micromachines (2 papers)

SOCIETY AFFILIATIONS

2021 – 2022	Early-Career member of the American Physical Society (APS)
2021 – 2022	Full member of the Cryogenic Society of America (CSA)
2020 – 2022	Full member of the American Society for Gravitational and Space Research (ASGSR)
2020 – 2022	Early-Career member of the American Institute of Aeronautics and Astronautics (AIAA)
2016 – 2022	Full member of the European Low-Gravity Research Association (ELGRA)

JOURNAL ARTICLES

- J1. A.M. Gañán-Calvo, K. Hnatkova, **Á. Romero-Calvo**, J. Fajardo-López, M. Malik, “Risk stratifiers for arrhythmic and non-arrhythmic mortality after acute myocardial infarction”, *Scientific Reports*, Vol. 8, pp. 9897, 2018.
doi:10.1038/s41598-018-28327-8
- J2. **Á. Romero-Calvo**, G. Cano-Gómez, E. Castro-Hernández, F. Maggi, “Free and forced oscillations of magnetic liquids under low-gravity conditions”, *Journal of Applied Mechanics*, Vol. 82, Num. 2, pp. 021010, 2020.
doi:10.1115/1.4045620
- J3. **Á. Romero-Calvo**, G. Cano-Gómez, T. Hermans, L. Parrilla Benítez, M. Herrada, E. Castro-Hernández, “Total magnetic force on a ferrofluid droplet in microgravity”, *Experimental Thermal and Fluid Science*, Vol. 117, pp. 110-124, 2020.
doi:10.1016/j.expthermflusci.2020.110124
- J4. **Á. Romero-Calvo**, A. García-Salcedo, F. Garrone, I. Rivoalen, G. Cano-Gómez, E. Castro-Hernández, M. Herrada, F. Maggi, “StELIUM: A student experiment to investigate the sloshing of magnetic liquids in microgravity”, *Acta Astronautica*, Vol. 173, pp. 344-355 2020.
doi:10.1016/j.actaastro.2020.04.013
- J5. **Á. Romero-Calvo**, F. Maggi, H. Schaub, “Magnetic Positive Positioning: Toward the application in space propulsion”, *Acta Astronautica*, Vol. 187, pp. 348-361, 2021.
doi:10.1016/j.actaastro.2021.06.045

- J6. **Á. Romero-Calvo**, G. Cano-Gómez, T. Hermans, L. Parrilla Benítez, M. Herrada, E. Castro-Hernández, “Axisymmetric ferrofluid oscillations in a cylindrical tank in microgravity”, *Microgravity Science and Technology*, Vol. 33, Num. 50, 2021.
doi:10.1007/s12217-021-09894-4
- J7. **Á. Romero-Calvo**, A. García-Salcedo, F. Garrone, I. Rivoalen, G. Cano-Gómez, E. Castro-Hernández, F. Maggi, “Free surface reconstruction of opaque liquids in microgravity. Part 1: Design and on-ground testing”, *Acta Astronautica*, Vol. 189, pp. 250–259, 2021.
doi:10.1016/j.actaastro.2021.08.029
- J8. **Á. Romero-Calvo**, F. Garrone, A. García-Salcedo, I. Rivoalen, G. Cano-Gómez, E. Castro-Hernández, F. Maggi, “Free surface reconstruction of opaque liquids in microgravity. Part 2: Microgravity results”, *Acta Astronautica*, Vol. 189, pp. 269-277, 2021.
doi:10.1016/j.actaastro.2021.07.020
- J9. G. Cano-Gómez, **Á. Romero-Calvo** (eq. contr. auth.), “Comment on *The magnetic body force in ferrofluids*”, *IOP Journal of Physics D: Applied Physics*, Vol. 55, pp. 128002, 2022.
doi:10.1088/1361-6463/ac4180
- J10. **Á. Romero-Calvo**, G. Cano-Gómez, H. Schaub, “Diamagnetically enhanced electrolysis and phase separation in low-gravity”, *Journal of Spacecraft and Rockets*, Vol. 59, No. 1, pp. 59-72, 2022.
doi:10.2514/1.A35021
- J11. K. Wilson, **Á. Romero-Calvo**, M. Bengtson, J. Hammerl, J. Maxwell, H. Schaub, “Development and characterization of the ECLIPS space environments simulation facility”, *Acta Astronautica*, Vol. 194, pp. 48-58, 2022.
doi:10.1016/j.actaastro.2021.12.037
- J12. **Á. Romero-Calvo**, G. Cano-Gómez, H. Schaub, “Simulation and uncertainty quantification of electron beams in active spacecraft charging scenarios”, *Journal of Spacecraft and Rockets*, Vol. 59, No. 3, pp. 739-750, 2022.
doi:10.2514/1.A35190
- J13. **Á. Romero-Calvo**, A. García-Salcedo, F. Garrone, I. Rivoalen, F. Maggi, “Lateral and axisymmetric ferrofluid oscillations in a cylindrical tank in microgravity”, *AIAA Journal*, Vol. 60, No. 4, pp. 2707-2712, 2022,
doi:10.2514/1.J061351
- J14. K. Wilson, **Á. Romero-Calvo**, H. Schaub, “Constrained Guidance for Spacecraft Proximity Operations Under Electrostatic Perturbations”, *Journal of Spacecraft and Rockets*, Vol. 59, No. 4, pp. 1304-1316, 2022,
doi:10.2514/1.A35162
- J15. **Á. Romero-Calvo**, Hammerl J, H. Schaub, “Touchless potential sensing of differentially-charged spacecraft using secondary electrons”, *Journal of Spacecraft and Rockets*, Vol. 59, No. 5, pp.1623-1633, 2022,
doi:10.2514/1.A35355
- J16. **Á. Romero-Calvo**, M. Herrada, G. Cano-Gómez, H. Schaub, “Fully Coupled Interface-Tracking Model for Axisymmetric Ferrohydrodynamic Flows”, *Applied Mathematical Modelling*, Vol. 111, pp. Pages 836-861, 2022,
doi:10.1016/j.apm.2022.06.046
- J17. **Á. Romero-Calvo**, A. Ömer, H. Schaub, and K. Brinkert. “Magnetic phase separation in microgravity”, *npj Microgravity*, Vol. 8, No. 32, 2022,
doi:10.1038/s41526-022-00212-9
- J18. **Á. Romero-Calvo**, V. Urbanskiy, V. Yudinsev, H. Schaub, V. Trushlyakov, “NNovel propellant settling strategies for liquid rocket engine restart in microgravity”, *Acta Astronautica*, in press,
doi:10.1016/j.actaastro.2022.10.012

- J19. J. Hammerl, A. López, **Á. Romero-Calvo**, H. Schaub, “Touchless potential sensing of differentially-charged spacecraft using x-rays”, *Journal of Spacecraft and Rockets*, *under review*
- J20. **Á. Romero-Calvo**, K. Champion, H. Schaub, “Enabling Ultraviolet Lasers for Touchless Spacecraft Potential sensing”, *IEEE Transactions on Plasma Science*, *under review*
- J21. **Á. Romero-Calvo**, C. Nogales, K. Billings, W. West, H. Schaub, “Design and testing of the microgravity Magnetically Enhanced Electrolysis (MEE) experiment”, *in preparation*
- J22. **Á. Romero-Calvo**, A. Ömer, and K. Brinkert. “Magnetically enhanced water electrolysis in microgravity”, *in preparation*
- J23. **Á. Romero-Calvo**, “Stability of magnetic liquid interfaces in microgravity”, *in preparation*
- J24. M. Herrada, **Á. Romero-Calvo**, G. Cano-Gómez, H. Schaub, “Axisymmetric bubble growth and detachment subject to inhomogeneous magnetic fields in microgravity”, *in preparation*

PATENTS

- P1. **Á. Romero-Calvo**, H. Schaub, “Systems and Methods for Magnetic Buoyancy Enhanced Electrolysis and Boiling Systems”, PCT/US2021/034697, December 9, 2021
- P2. **Á. Romero-Calvo**, “Magnetohydrodynamic Drive for Gas Production in Microgravity”, Preliminary Patent Application, Appl. No. 63/399784, August 22, 2022

WHITE PAPERS

- P1. Egle Cekanaviciute et al., “NASA Biological and Physical Sciences Outreach for the Next Decade”, Decadal Survey on Biological and Physical Sciences (BPS) Research in Space 2023-2032, 2021, <https://tinyurl.com/2ppaexv2>

INVITED LECTURES

11. **Á. Romero-Calvo**, “ESA Drop Your Thesis! 2017 – The Ferros”, ESA Gravity-Related Experiments Training Week 2018, February 7, 2018
12. **Á. Romero-Calvo**, “ESA Drop Your Thesis! 2017 – The Ferros”, ESA/ELGRA Gravity-Related Research Summer School 2018, June 4, 2018
13. **Á. Romero-Calvo**, “Microgravity Research: our Pathway to Space”, Online Global Space Summit, Space Development Nexus, September 14, 2020
14. **Á. Romero-Calvo**, “UNOOSA DropTES Programme 2018: StELIUM”, UNOOSA “DropTES: Master the Microgravity Path” Webinar Series, November 19, 2020
15. **Á. Romero-Calvo**, “Low-Gravity Fluid Mechanics: A Student Perspective”, UNOOSA Webinars on Hyper/Microgravity Research, May 26, 2021
16. **Á. Romero-Calvo**, “Designing and Testing a Technology Demonstrator in Microgravity”, UNOOSA Webinars on Hyper/Microgravity Research, June 2, 2021
17. **Á. Romero-Calvo**, “Microgravity Science and Technology: Concept, Facilities, and Applications”, Space Studies Program 2021, International Space University, August 11, 2021
18. **Á. Romero-Calvo**, “Magnetohydrodynamics: A New Approach to Low-Gravity Fluid Mechanics”, Georgia Tech Institute of Technology, February 14, 2022
19. **Á. Romero-Calvo**, “Magnetohydrodynamics: A New Approach to Low-Gravity Fluid Mechanics”, Massachusetts Institute of Technology, February 22, 2022
110. **Á. Romero-Calvo**, “Magnetohydrodynamics: A New Approach to Low-Gravity Fluid Mechanics”, University of Colorado Boulder, March 7, 2022

CONFERENCE PAPERS AND PROCEEDINGS PUBLICATIONS

- C1. **Á. Romero-Calvo**, T. Hermans, G. Cano-Gómez, L. Parrilla-Benítez, M. Herrada, E. Castro-Hernández, “Ferrofluid dynamics in microgravity conditions”, In 2nd Symposium on Space Educational Activities, Budapest, Hungary, April 11-13, 2018
- C2. A. Russo, F. Ventre, **Á. Romero-Calvo**, R. Cirelli, S. Andrea Bella, M. Lavagna, “Innovative sensor-based network for autonomous on-orbit structural health monitoring”, In 70th International Astronautical Congress, Washington DC, US, October 21-25, 2019
- C3. **Á. Romero-Calvo**, A. J. García-Salcedo, F. Garrone, I. Rivoalen, G. Cano-Gómez, E. Castro-Hernández, F. Maggi, “Free surface reconstruction of opaque liquids for experimental sloshing analyses in microgravity”, In 70th International Astronautical Congress, Washington DC, US, October 21-25, 2019
- C4. **Á. Romero-Calvo**, A. J. García-Salcedo, I. Rivoalen, F. Garrone, G. Cano-Gómez, E. Castro-Hernández, M. Herrada, F. Maggi, “Lateral sloshing of magnetic liquids in microgravity”, In 70th International Astronautical Congress, Washington DC, US, October 21-25, 2019
- C5. **Á. Romero-Calvo**, J. D. Biggs, F. Toppato, “Attitude control for the LUMIO CubeSat in deep space”, In 70th International Astronautical Congress, Washington DC, US, October 21-25, 2019
- C6. **Á. Romero-Calvo**, F. Maggi, H. Schaub, “Prospects and challenges for magnetic propellant positioning in low-gravity”, In 43rd AAS Guidance, Navigation and Control Conference, Breckenridge, CO, US, January 30 - February 5, 2020
- C7. **Á. Romero-Calvo**, M. Herrada, G. Cano-Gómez, H. Schaub, “Advanced numerical simulation of magnetic liquid sloshing in microgravity”, In 71st International Astronautical Congress, Virtual, October 7-15, 2020
- C8. K. Wilson, M. Bengtson, J. Maxwell, **Á. Romero-Calvo**, H. Schaub, “Characterization of the ECLIPS space environments simulation facility”, In AIAA SciTech Forum and Exposition 2021, Virtual, January 21-22, 2021.
doi:10.2514/6.2021-1538
- C9. **Á. Romero-Calvo**, G. Cano-Gómez, H. Schaub, “Electron beam expansion and deflection uncertainty for active spacecraft charging applications”, In AIAA SciTech Forum and Exposition 2021, Virtual, January 21-22, 2021.
doi:10.2514/6.2021-1540
- C10. J. Hammerl, **Á. Romero-Calvo**, A. López, H. Schaub, “Touchless potential sensing of complex differentially-charged shapes using x-rays”, In AIAA SciTech Forum and Exposition 2022, San Diego, CA, US, January 3-7, 2022
- C11. **Á. Romero-Calvo**, J. Hammerl, H. Schaub, “Touchless potential sensing of complex differentially-charged shapes using secondary electrons”, In AIAA SciTech Forum and Exposition 2022, San Diego, CA, US, January 3-7, 2022
- C12. **Á. Romero-Calvo**, V. Urbanskiy, V. Yudintsev, H. Schaub, V. Trushlyakov, “Microgravity restart of liquid rocket engine with low propellant residuals”, In 44th AAS Guidance, Navigation and Control Conference, Breckenridge, CO, US, February 3-9, 2022
- C13. **Á. Romero-Calvo**, K. Champion, H. Schaub, “Touchless spacecraft potential sensing using energetic electron beams and active photoemission”, In 16th Spacecraft Charging Technology Conference, Virtual Event, April 4-9, 2022
- C14. K. Champion, **Á. Romero-Calvo**, H. Schaub, “Large scale particle tracing simulation for touchless potential sensing”, In AIAA SciTech Forum and Exposition 2023, S. Gaylord National Harbor, MD, January 23–27, 2023, *under review*
- C15. **Á. Romero-Calvo**, S. Hart, G. Lightsey, “Novel Strategies for SmallSat Propellant Positioning”, AAS Guidance, Navigation and Control Conference, Breckenridge, CO, US, February 2-8, 2023

CONFERENCE ABSTRACTS AND PRESENTATIONS

- A1. **Á. Romero-Calvo**, T. Hermans, G. Cano-Gómez, L. Parrilla-Benítez, M. Herrada, E. Castro-Hernández, M. Herrada, F. Maggi, “Ferofluid dynamics in microgravity conditions”, 42nd COSPAR Scientific Assembly, Pasadena, California, US, July 14-22, 2018
- A2. **Á. Romero-Calvo**, G. Cano-Gómez, E. Castro-Hernández, M. Herrada, F. Maggi, “Magnetic sloshing damping in microgravity”, 8th Interplanetary CubeSat Workshop, Milan, Italy, May 28-29, 2019
- A3. **Á. Romero-Calvo**, A. García-Salcedo, F. Garrone, I. Rivoalen, G. Cano-Gómez, E. Castro-Hernández, M. Herrada, F. Maggi, “Lateral sloshing of magnetic liquids in microgravity”, 26th European Low Gravity Research Association Biennial Symposium and General Assembly, Granada, Spain, September 24-27, 2019
- A4. **Á. Romero-Calvo**, “UNOOSA DropTES Programme - StELIUM”, 27th Workshop on Space Technology for Socio-Economic Benefits: “Ensuring Inclusiveness through Space-based Applications and Space Exploration”, Washington, DC, October 18-20, 2019
- A5. **Á. Romero-Calvo**, H. Schaub, “Preliminary design of magnetically enhanced low-gravity electrolysis and phase separation system”, ASGSR Meeting 2020, Virtual, November 5-6, 2020
- A6. **Á. Romero-Calvo**, A. García-Salcedo, F. Garrone, F. Maggi, “Axisymmetric and lateral free surface oscillations of magnetic liquids in microgravity”, 43rd COSPAR Scientific Assembly, Virtual, January 28 - February 4, 2021
- A7. **Á. Romero-Calvo**, M. Herrada, H. Schaub, “Axisymmetric bubble growth and detachment subject to inhomogeneous magnetic fields in microgravity”, 43rd COSPAR Scientific Assembly, Virtual, January 28 - February 4, 2021
- A8. **Á. Romero-Calvo**, O. Akay, K. Brinkert, H. Schaub, “Magnetic enhancement of water electrolysis in reduced gravity environments”, Lunar Surface Science Workshop: Fundamental and Applied Lunar Surface Research in Physical Sciences, Virtual, August 18-19, 2021
- A9. **Á. Romero-Calvo**, H. Schaub, “Low-gravity magnetohydrodynamics: concept and applications”, AIAA Annual Technical Symposium, University of Colorado Boulder, September 28, 2021
- A10. **Á. Romero-Calvo**, K. Champion, H. Schaub, “Touchless potential sensing model for active spacecraft charging scenarios”, Applied Space Environments Conference, Virtual, November 1-5, 2021
- A11. **Á. Romero-Calvo**, C. Nogales, K. Billings, W. West, H. Schaub, “ASGSR Ken Souza program 2020: post-PDR design update”, ASGSR Meeting 2021, Baltimore, MD, November 3-6, 2021
- A12. F. París Carballo, “Actividades universitarias andaluzas en conexión con el sector espacio”, Semana Mundial del Espacio, CTA-IDEA-CATEC, Seville, Spain, October 13, 2021
- A13. **Á. Romero-Calvo**, M. Herrada, G. Cano-Gómez, H. Schaub, “Axisymmetric bubble growth and detachment subject to inhomogeneous magnetic fields in microgravity”, APS March Meeting 2022, Chicalo, IL, US, March 14-17, 2022
- A14. **Á. Romero-Calvo**, K. Champion, H. Schaub, “Touchless spacecraft potential sensing using energetic electron beams and active photoemission”, 16th Spacecraft Charging Technology Conference, Virtual, April 4-8, 2022
- A15. J. Hammerl, A. López, **Á. Romero-Calvo**, H. Schaub, “Measuring Multiple Potentials of a Rotating and Differentially-Charged Object Simultaneously Using X-rays”, 16th Spacecraft Charging Technology Conference, Virtual, April 4-8, 2022

- A16. **Á. Romero-Calvo**, M. Herrada, G. Cano-Gómez, H. Schaub, “Axisymmetric bubble growth and detachment subject to inhomogeneous magnetic fields in microgravity”, APS March Meeting 2022, Chicalo, IL, US, March 14-17, 2022
- A17. **Á. Romero-Calvo**, O. Akay, K. Brinkert, “Diamagnetic phase separation in microgravity”, 44th COSPAR Scientific Assembly, Athens, Greece, July 16-24, 2022
- A18. K. Brinkert, O. Akay, S. Saravanabavan, E. Sokalu, **Á. Romero-Calvo**, “Photoelectrochemical Hydrogen and Oxygen Production in Microgravity Environment”, 44th COSPAR Scientific Assembly, Athens, Greece, July 16-24, 2022
- A19. K. Brinkert, O. Akay, S. Saravanabavan, E. Sokalu, **Á. Romero-Calvo**, “Recent Advances in (Photo-)electrochemical Hydrogen and Oxygen Production for Space Exploration”, 44th COSPAR Scientific Assembly, Athens, Greece, July 16-24, 2022
- A20. K. Brinkert, **Á. Romero-Calvo**, O. Akay, “Efficient and Stable Hydrogen and Oxygen Production in Microgravity”, 27th ELGRA Biennial Symposium & General Assembly, Lisbon, Portugal, September 6-9, 2022
- A21. K. Brinkert, **Á. Romero-Calvo**, O. Akay, “Efficient and Stable Hydrogen and Oxygen Production in Microgravity”, ASGSR Meeting 2022, Houston, TX, November 9-12, 2022
- A22. **Á. Romero-Calvo**, C. Nogales, K. Billings, W. West, H. Schaub, “Design and Results of the Magnetically Enhanced Electrolysis Experiment”, ASGSR Meeting 2022, Houston, TX, November 9-12, 2022

PUBLIC OUTREACH

Newspaper Articles and Press Notes

1. “Dos estudiantes de la US seleccionados para el programa Drop Your Thesis! 2017 de la Agencia Espacial Europea”, Universidad de Sevilla, February 2017
2. “Drop Your Thesis! 2017 Team The Ferros kicking off at ESA Training Week”, SELGRA Newsletter, February 2017
3. “Team of students win fellowship from UN to study sloshing”, Politecnico di Milano, May 2019
4. “Dos estudiantes de la US seleccionados para el programa DropTES de la Oficina de Naciones Unidas para Asuntos del Espacio Exterior (UNOOSA)”, Universidad de Sevilla, May 2019
5. “Un trozo de basura espacial de 1 cm es tan potente como una granada de mano”, Antonio Villareal, El Confidencial, August 2019
6. “Un granadino en la cantera de la NASA”, Jorge Pastor, Ideal de Granada, August 2019
7. “Estudiantes de la Universidad de Sevilla se preparan para ejecutar su experimento en microgravedad”, Universidad de Sevilla, November 2019
8. “StELIUM: Unveiling the physics behind magnetic liquid sloshing in microgravity”, SELGRA Newsletter, January 2020
9. “DropTES 6th Cycle: Diary”, UNOOSA DropTES Program, January 2020
10. “PhD student wins suborbital research launch competition”, Jeff Zehnder, CU Boulder, March 2021
11. “Un experimento del ingeniero aeroespacial Álvaro Romero Calvo viajará en el cohete New Shepard de Blue Origin”, La Caixa Foundation, March 2021
12. “Extraer hidrógeno y oxígeno del agua con imanes: el experimento de un ingeniero español viaja al espacio”, Patricia Biosca, Diario ABC, March 2021

13. “La Luna será una ‘gasolinera’ camino de Marte”, Montserrat Baldomà, El Periódico de Cataluña, March 2021
14. “No nací queriendo ser astronauta”, G. Cappa, Granada Hoy, March 2021
15. “Un experimento espacial con talento de Granada”, Jorge Pastor, Ideal de Granada, March 2021
16. “La Luna podría ser una gasolinera para llegar a Marte”, Irene Hernández Velasco, El Mundo, April 2021
17. “El experimento de Álvaro Romero Calvo será el próximo pasajero del cohete New Shepard de Blue Origin”, Asociación de becarios *La Caixa*, La Caixa Foundation, April 2021
18. “La nueva batalla por el despegue del turismo espacial”, Patricia Biosca, Diario ABC, July 2021
19. “Aerospace PhD research proposes better way to keep astronauts breathing in space”, Jeff Zehnder, CU Boulder, August 2022
20. “Making oxygen with magnets could help astronauts breathe easy”, University of Warwick, August 2022
21. “Sauerstoffextraktion Per Magnetismus”, Jasmin Plättner, ZARM Institute, August 2022
22. “In a first, researchers produce oxygen from magnets for space exploration”, Loukia Papadopoulos, Interesting Engineering, August 2022
23. “Future Astronauts May Breathe Easier in Space Thanks to Magnets”, Maddie Bender, Daily Beast, August 2022
24. “Need more air in space? Magnets could yank it out of water”, Tatyana Woodall, Popular Science, August 2022
25. “Cómo los imanes podrían ayudarnos a respirar en el espacio”, Patricia Biosca, Diario ABC, August 2022

TV Interviews

1. TV program, Universidad de Sevilla TV, November 2017
2. Live TV interview, Despierta Andalucía, Canal Sur TV, March 2021
3. Live TV interview, Informativos Granada, Canal Sur T, March 2021
4. Regular program, Con-Ciencia, Canal Sur TV, March 2021

Radio Interviews

1. Live radio interview, Canal Sur Radio, March 2017
2. “Un experimento del ingeniero español Álvaro Romero se instalará en el cohete New Shepard de Blue Origin”, Marcos Ruiz, Ágora Radio, March 2021
3. Live radio interview, Radio Nacional de España, March 2021
4. Live radio interview, La Noche de COPE, April 2021
5. Live radio interview, A Golpe de Bit, Radio Exterior, April 2021
6. “Turismo especial, ¿ecológico?”, José Antonio González Martínez, Capital Radio, July 2021

OTHERS

1. Certified NAUI advanced open water diver (CBR9DD7, 8 Mar 2022)
2. Experienced classical pianist with a Professional Piano Degree at Ángel Barrios Music School (2012)
3. Languages: Spanish, English, Italian, French