Education:

[1] PhD (Cum Laude), “Contributions to GNSS-R Earth Remote Sensing from Nano-Satellites,” Universitat Politècnica de Catalunya (UPC), 21/01/2016. Advisor: Professor Adriano Camps.

[2] MSc, Aerospace Science and Technology, Universitat Politècnica de Catalunya (UPC), 16/06/2011.

[3] Aerospace Engineer, Escuela Técnica Superior de Ingenieros Aeronáuticos (ETSIA) (“BSc+MSc”), Universidad Politécnica de Madrid (UPM), 13/07/2010. Speciallity: Spacecrafts.

Specialization Courses:

[1] Spacecraft Systems Engineering. European Space Agency (ESA) - European Space Research and Technology Centre (ESTEC). January 2014-October 2014.

[2] Assembly, Integration and Verification (AIV). Innovative Solutions in Space (ISISPACE). Delft, The Netherlands. March 2014.

[3] Systems Engineering for Small Satellites. ISISPACE. Professor R.J. Hamann (Delft University of Technology). Delft, The Netherlands. January 2014.

[4] Attitude Determination and Control System. (ADCS). Innovative Solutions in Space (ISISPACE). Dr. Congying Han. Delft, The Netherlands. January 2014.

[5] Spacecraft Thermal Analysis. European Space Agency (ESA) - European Space Research and Technology Centre (ESTEC). January 2013-October 2013.

Work Experience:

[1] Postdoctoral research fellow under “Juan de la Cierva” postdoctoral fellowship from the Spanish Ministerio de Ciencia, Innovación y Universidades at Centre Tecnòlogic de Telecomunicacions de Catalunya (CTTC). 2017-2019.

[2] Postdoctoral research fellow at NASA’s Jet Propulsion Laboratory (JPL). 2016-2017.

[3] Predoctoral research fellow at Institut d’Estudies Espacials de Catalunya (IEEC). 2011-2016.

Research Interests:

[1] Earth and Planetary Remote Sensing.

[2] GNSS-Reflectometry.

[3] Nano-Satellites.

Selected Grants and Awards:

[1] Chair IEEE GRSS GNSS-R Working Group.

[2] Editor MDPI Remote Sensing.

[3] Reviewer Board MDPI Remote Sensing.

[4] Session Chair at IEEE IGARSS 2019: Global Navigation Satellite Systems Reflectometry / GNSS-R Sensors, Techniques and Applications I. July 2019.

[5] MDPI Remote Sensing postdoctoral award 2019

[6] UPC Special Award in Science 2018

[7] Session Chair at IEEE IGARSS 2018: Global Navigation Satellite Systems Reflectometry / GNSS-R III: Sensors and Applications. July 2018.

[8] Session Chair at IEEE IGARSS 2018: Global Navigation Satellite Systems Reflectometry / GNSS-R IV: Sensors and Applications. July 2018.

[9] Juan de la Cierva research fellowship by Spanish Ministerio de Ciencia (classified 1st position).

[10] 2017 IEEE GRSS award for the best PhD thesis/ young researcher in Geoscience and Remote Sensing.

[11] Session Chair at IEEE IGARSS 2017: Global Navigation Satellite Systems Reflectometry / GNSS-R Sensors II. July 2017.

[12] Session Chair at IEEE IGARSS 2017: Global Navigation Satellite Systems Reflectometry / GNSS-R Sensors III. July 2017.

[13] NASA CyGNSS external science team member.

[14] Postdoctoral fellowship by NASA's Jet Propulsion Laboratory (JPL).

[15] Session Chair at IEEE IGARSS 2015: Global Navigation Satellite Systems Reflectometry / GNSS-R Sensors II. July 2015.

[16] IEEE student travel grant for IEEE IGARSS, Milan, Italy, July 2015.

[17] IEEE student travel grant for Workshop on Reflectometry using GNSS and Other Signals of Opportunity (GNSS+R 2015), GFZ, Potsdam, Germany, May 2015.

[18] NASA student travel grant for Workshop on Reflectometry using GNSS and Other Signals of Opportunity (GNSS+R 2012), Purdue University, IN, USA, October 2012.

[19] Ph.D. fellowship by Institut d'Estudis Espacials de Catalunya (IEEC).

Peer-Review Publications:

Journal Papers:

[1] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Functional Correlation of CyGNSS Delay Doppler Maps with Above Ground Biomass: An Experimental Study Over Tropical Forests,” IEEE Transactions on Geoscience and Remote Sensing. (submitted).

[2] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Effects of Rough Topography in GNSS-R: A Parametric Study Based on a Digital Elevation Model,” MDPI Remote Sensing Special Issue of GNSS Reflectometry for Earth Observation, vol. 11, no. 21, pp. 2556, https://doi.org/10.3390/rs11212556, 2019.

[3] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Impact of the Elevation Angle on CYGNSS GNSS-Bistatic Reflectivity,” MDPI Remote Sensing Special Issue on Applications of Micro- and Nano-Satellites for Earth Observation, vol. 10, no. 11. pp. 1-21, https://doi.org/10.3390/rs10111749, 2018.

[4] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Sensitivity of CyGNSS Bistatic Reflectivity and SMAP Microwave Radiometry Brightness Temperature to Geophysical Parameters over Land Surfaces,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing Special Issue on NASA’s CYGNSS micro-satellites constellation, vol. 12, no. 1, pp. 107-122, doi: 10.1109/JSTARS.2018.2856588, 2018.

[5] H. Carreno-Luengo, S.T. Lowe, C. Zuffada, S. Esterhuizen, and S. Oveisgharan, “Spaceborne GNSS-R from the SMAP Mission: First Assessment of Polarimetric Scatterometry over Land and Cryosphere”, MDPI Remote Sensing, vol. 9, no. 4, pp. 362, doi: 10.3390/rs9040362, 2017.

[6] A. Cortiella, D. Vidal, J. Jané, E. Juan, R. Olivé, A. Amèzaga, J. F. Munoz, P, Via, H. Carreno-Luengo, and A. Camps, “3Cat-2: Attitude Determination and Control System for a GNSS-R Earth Observation 6U CubeSat Mission,” European Journal of Remote Sensing, vol. 49, pp. 759-776, doi: 10.5721/EuJRS20164940, 2017.

[7] H. Carreno-Luengo, A. Camps, P. Vila. J.F. Munoz, A. Cortiella, D. Vidal, J. Jané, N. Catarino, M. Hagenfeldt, P. Palomo, and S. Cornara, “^{3}Cat-2; an Experimental Nano-Satellite for GNSS-R Earth Observation: Mission Concept and Analysis,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 9, no. 10, pp. 4540-4551, doi: 10.1109/JSTARS.2016.2574717, 2016.

[8] R. Olivé, A. Amèzaga, H. Carreno-Luengo, H. Park, and A. Camps,” Implementation of a GNSS-R Payload Based on Software-Defined Radio for the ^{3}Cat-2 Mission,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 9, no. 10, pp. 4824-4833, doi: 10.1109/JSTARS.2016.2559939, 2016.

[9] H. Carreno-Luengo, A. Camps, J. Querol, and G. Forte, “First Results of a GNSS-R Experiment from a Stratospheric Balloon over Boreal Forests,” IEEE Transactions on Geoscience and Remote Sensing, vol. 54, no. 5, pp. 2652-2663, doi: 10.1109/TGRS.2015.2504242, 2015. (7)

[10] H. Carreno-Luengo, A. Amèzaga, D. Vidal, R. Olivé, J.F. Munoz, and A. Camps, “First Polarimetric GNSSR Measurements from a Stratospheric Flight over Boreal Forests,” MDPI Remote Sensing, vol. 7, no. 10, pp. 1312013138, doi:10.3390/rs71013120, 2015.

[11] H. Carreno-Luengo, and A, Camps, “First Dual-Band Multi-Constellation GNSS-R Scatterometry Experiment over Boreal Forests from a Stratospheric Balloon,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, doi: 10.1109/JSTARS.2015.2496661, 2015.

[12] H. Carreno-Luengo, and A. Camps, “Empirical Results of a Surface Level GNSS-R Experiment in a Wave Channel,” MDPI Remote Sensing, vol. 7. no. 6, pp. 7471-7493, doi:10.3390/rs70607471, 2015.

[13] H. Park, D. Pascual, A. Camps, F. Martín, A. Alonso-Arroyo, and H. Carreno-Luengo, “Analysis of Spaceborne GNSS-R Delay-Doppler Tracking,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 7, no. 5, pp. 1481-1492, doi: 10.1109/JSTARS.2014.2322198, 2014.

[14] H. Carreno-Luengo, A. Camps, I. Ramos-Pérez, and A. Rius, “Experimental Evaluation of GNSSReflectometry Altimetric Precision Using the P(Y) and C/A Signals,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 7, no. 5, pp. 1493-1500, doi: 10.1109/JSTARS.2014.2320298, 2014.

[15] H. Carreno-Luengo, H. Park, A. Camps, F. Fabra, and A. Rius, “GNSS-R Derived Centimetric Sea Topography: An Airborne Experiment Demonstration,” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 6, no. 3, pp. 1468-1478, doi: 10.1109/JSTARS.2013.2257990, 2013.

[16] H. Park, A. Camps, E. Valencia, N. Rodríguez-Alvarez, X. Bosch, I. Ramos-Pérez, and H. Carreno-Luengo, “Retracking Considerations in Spaceborne GNSS-R Altimetry”, GPS Solutions, vol. 16, no. 4, pp. 507-518, doi: 10.1007/s10291-011-0251-7, 2012.

Conference Papers:

[1] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “On the Use of GNSS-R for Biomass Studies over Tropical Forests,” in Proc. of the 2019 Advanced RF Sensors and Remote Sensing Instrument Workshop, European Space Agency ESA/ESTEC, The Netherlands, November 2019.

[2] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Biomass Estimation over Tropical Rainforests Using GNSS-R on-board the CyGNSS Microsatellites Constellation,” in Proc. of the 2019 IEEE IGARSS, pp. 8676-8679, , doi: 10.1109/IGARSS.2019.8900213, Yokohama, Japan, July 2019.

[3] H. Carreno-Luengo, G. Luzi, and M. Crosetto, “Effects of Rough Topography in GNSS-R: A Parametric Study based on a Digital Elevation Model,” in Proc. of the 2019 IEEE IGARSS, pp. 8663-8666, doi: 10.1109/IGARSS.2019.8898381, Yokohama, Japan, July 2019.

[4] N. Pierdicca, A. Camps, H. Carreno-Luengo, L. Cenci, M.-P. Clarizia, D. Comite, F. Costantini, L. Dente, N. Floury, L. Guerriero, A. Mollfulleda, S. Paloscia, H. Park, E. Santi, and M. Zibri,

"Potential of spaceborne GNSS-R for land applications," in Proc. of the European Space Agency (ESA) Living Planet Symposium 2019, Milan, Italy, 2019.

[5] H. Carreno-Luengo, G. Luzi, and M. Crosetto, "Sensitivity of CyGNSS to Above Ground Biomass and Canopy Height over Tropical Forests," in Proc. of the 2019 IEEE GRSS, Specialist Meeting on Reflectometry using GNSS and other Signals of Opportunity, Benevento, Italy, May 2019.

[6] H. Carreno-Luengo, G. Luzi, and M. Crosetto, "An Experimental Assessment of Rough Topography on Spcaeborne Delay Doppler Maps," in Proc. of the 2019 IEEE GRSS, Specialist Meeting on Reflectometry using GNSS and other Signals of Opportunity, Benevento, Italy, May 2019.

[7] H. Carreno-Luengo, "Global Navigation Satellite Systems Reflectometry (GNSS-R): a New Tool for Earth Remote Sensing with Improved Spatio-Temporal Resolution," in Proc. of the 1st CTTC Workshop, Barcelona, Spain, September 2018.

[8] H. Carreno-Luengo, G. Luzi, and M. Crosetto, "Geophysical Relationship between CyGNSS GNSS-R Bistatic Reflectivity and SMAP Microwave Radiometry Brightness over Land Surfaces," in Proc. of the 2018 IEEE IGARSS, pp. 2031-2034, doi: 10.1109/IGARSS.2018.8519565, Valencia, Spain, July 2018.

[9] H. Carreno-Luengo, G. Luzi, and M. Crosetto, "Impact of the Elevation Angle on CyGNSS Reflectivity over Different Scattering Media over Land and Ocean," in Proc. of the 2018 IEEE IGARSSS, pp. 1051-1054, doi: 10.1109/IGARSS.2018.8519402, Valencia, Spain, July 2018.

[10] H. Carreno-Luengo, G. Luzi, and M. Crosetto, "NASA CyGNSS-Reflectometer and SMAP-Radiometer Functional Correlation over Land Surfaces," in Proc. of the 2018 IEEE Young Professionals Conference on Remote Sensing, Aachen, Germany, June 2018.

[11] D. Macia, H. Carreno-Luengo, M. Soria, J.A. Ruiz de Azúa, D. González, and D. García-Almiñana, "Proofof-Concept of the GNSS DIrect & REflected Combination Tester (G-DIRECT) Payload from a Stratospheric Sounding Balloon Experiment over Land Surfaces," in Proc. of the 2nd European Space Agency (ESA) Symposium on Space Educational Activities, Budapest, Hungary, April 2018.

[12] H. Carreno-Luengo, S.T. Lowe, C. Zuffada, S. Esterhuizen, and S. Oveisgharan, "Spaceborne GNSS-R from the SMAP Mission: First Assessment of Polarimetric Scatterometry over Land and Cryosphere," in Proc. of the 2017 IEEE IGARSS, pp. 4095-4098, doi: 10.1109/IGARSS.2017.8127900, Fort Worth, TX, USA, July 2017.

[13] H. Carreno-Luengo, S.T. Lowe, C. Zuffada, S. Esterhuizen, and S. Oveisgharan, "GNSS-R from the SMAP and CYGNSS missions: Application to Polarimetric Scatterometry and Ocean Altimetry," in Proc. of the 2017 IEEE IGARSS, pp. 5019-5021, doi: 10.1109/IGARSS.2017.8128130, Fort Worth, TX, USA, July 2017.

[14] H. Carreno-Luengo, and A. Camps, "Unified GNSS-R Formulation Including Coherent and Incoherent Scattering Components," in Proc. of the 2016 IEEE IGARSS, pp. 4815-4818, doi: 10.1109/IGARSS.2016.7730256, Beijing, China, July 2016.

[15] H. Carreno-Luengo, A. Amèzaga, A. Bolet, D. Vidal, J. Jané, J.F. Munoz, R. Olivé, A. Camps, J. Carola, N. Catarino, M. Hagenfeldt, P. Palomo, and S. Cornara, "TORMES-BEXUS 17 and 19: Precursor of the 6U Cubesat 3Cat-2," in Proc. of the 22nd ESA PAC Symposium, June 2015.

[16] H. Carreno-Luengo, A. Amèzaga, A. Bolet, D. Vidal, J. Jané, J.F. Munoz, R. Olivé, and A. Camps, "TORMES: A Multi-Constellation GNSS-R Experiment on BEXUS 17 and 19," in Proc. of the 22nd ESA PAC Symposium, June 2015.

[17] H. Carreno-Luengo, A. Amèzaga, A. Bolet, D. Vidal, J. Jané, J.F. Munoz, R. Olivé, A. Camps, J. Carola, N. Catarino, M. Hagenfeldt, P. Palomo, and S. Cornara, "3Cat-2: A 6U CubeSat-based Multi-Constellation, DualPolarization, and Dual-Frequency GNSS-R and GNSS-RO Experimental Mission," in Proc. of the 2015 IEEE IGARSS, pp. 5115-5118, doi: 10.1109/IGARSS.2015.7326984, Milan, Italy, July 2015.

[18] H. Carreno-Luengo, A. Amèzaga, A. Bolet, D. Vidal, J. Jané, J.F. Munoz, R. Olivé, and A. Camps, "MultiConstellation, Dual-Polarization, and Dual-Frequency GNSS-R Stratospheric Balloon Experiment Over Boreal Forests," in Proc. of the 2015 IEEE IGARSS, pp. 5107-5110, doi: 10.1109/IGARSS.2015.7326982, Milan, Italy, July 2015.

[19] H. Park, A. Camps, D. Pascual, A. Alonso-Arroyo, F. Martín, H. Carreno-Luengo, and R. Onrubia, "Simulation Study on Tropical Cyclone Tracking from the ISS Using GNSS-R measurements," in Proc. of the 2014 IEEE IGARSS, pp. 4062-4065, doi: 10.1109/IGARSS.2014.6947378, Quebec, Canada, July 2014.

[20] A. Camps, J.F. Marchán-Hernandez, X. Bosch-Lluis, N. Rodríguez-Alvarez, I. Ramos-Pérez, E. Valencia, J. M. Tarongi, H. Park, H. Carreno-Luengo, A. Alonso-Arroyo, D. Pascual, R. Onrubia, G. Forte, and J. Querol, "Review of GNSS-R Instruments and Tools Developed at the Universitat Politècnica de Catalunya-BarcelonaTech," in Proc. of the 2014 IEEE IGARSS, pp. 3826-3829, doi: 10.1109/IGARSS.2014.6947318, Quebec, Canada, July 2014.

[21] H. Carreno-Luengo, A. Camps, J. Querol, G. Forte, R. Onrubia and R. Díez, "A Stratospheric Balloon GNSSR Experiment: The 3Cat-2 Project in DLR/SNSB BEXUS," in Proc. of the 2014 IEEE IGARSS, pp. 3626-3629, doi: 10.1109/IGARSS.2014.6947268, Quebec, Canada, July 2014.

[22] H. Carreno-Luengo, A. Camps, R. Jové, A. Alonso-Arroyo, R. Olivé, A. Amèzaga, D. Vidal, J.F. Munoz, "The 3Cat-2 Project: GNSS-R In-Orbit Demonstrator for Earth Observation," in Proc. of the 2014 ESA Small Satellites, Systems & Service Symposium, Mallorca, Spain, May 2014.

[23] H. Park, A. Camps, D. Pascual, A. Alonso-Arroyo, F. Martín, and H. Carreno-Luengo, "Improvement of the PAU/PARIS End-to-end Performance Simulator (P2EPS) in Preparation for Upcoming GNSS-R Missions," in Proc. of the 2013 IEEE IGARSS, pp. 362-365, doi: 10.1109/IGARSS.2013.6721167, Melbourne, Australia, July 2013.

[24] H. Carreno-Luengo, and A. Camps, "A GNSS-R Experiment over Wave Channel Surface," in Proc. of the 2013 IEEE IGARSS, pp. 366-369, doi: 10.1109/IGARSS.2013.6721168, Melbourne, Australia, July 2013.

[25] H. Carreno-Luengo, A. Camps, I. Ramos-Pérez, G. Forte, R. Onrubia and R. Díez, "3Cat-2: A P(Y) and C/A GNSS-R Experimental Nano-Satellite Mission," in Proc. of the 2013 IEEE IGARSS, pp. 843-846, doi: 10.1109/IGARSS.2013.6721290, Melbourne, Australia, July 2013.

[26] H. Carreno-Luengo, A. Camps, I. Ramos-Pérez, and A. Rius, “PYCARO's Instrument Proof of Concept,” in Proc. of the 2012 Workshop on Reflectometry using GNSS and Other Signals of Opportunity (GNSS+R 2012), doi: 10.1109/GNSSR.2012.6408251, Purdue University, IN, USA, October 2012.

[27] H. Park, A. Camps, E. Valencia, H. Carreno-Luengo, F. Martín, A. Alonso-Arroyo, and D. Pascual, “Analysis of GNSS-R delay and Doppler tracking errors,” in Proc. of the 2012 Workshop on Reflectometry using GNSS and Other Signals of Opportunity (GNSS+R 2012), doi: 10.1109/GNSSR.2012.6408259, Purdue University, IN, USA, October 2012.

[28] H. Carreno-Luengo, H. Park, A. Camps, F. Fabra, and A. Rius, “Submeter Ocean Altimetry with GPS L1 C/A Signal,” in Proc. of the 2012 IEEE IGARSS, pp. 7071-7074, doi: 10.1109/IGARSS.2012.6352034, Munich, Germany, July 2012.

Other Publications:

[1] Cover page of the IEEE JSTARS Journal od Selected Topics in Applied Earth Observations and Remote Sensing, CyGNSS special issue, January 2019.

[2] Cover page of the IEEE Geoscience and Remote Sensing Magazine, December 2014 issue.